Manualslib.com - The Global Manuals Library

MITSUBISHI WL-82913 CONNECTIONS AND MAINTENANCE

Table of Contents

important safeguards
power lines
replacement parts
Unpacking the TV's Accesories
TV Delivery and Installation, Cabinet Assembly
TV Delivery and Installation, Diamond Shield™ Installation and Removal
TV Delivery and Installation, Arc Assembly
Special Features

Front Control Panel Buttons
Front Control Panel Memory Card
Back Panel
Connecting and Appendixes
NetCommand Pre-Memorized Devices
Antenna or Wall Outlet Cable for Digital Broadcasts
Separate UHF and VHF Antennas for Analog Broadcasts
Single Analog Antenna or Wall Outlet Cable
Cable Box
Analog VCR to Analog Antenna or Wall Outlet Cable
Analog VCR to a Cable Box
Analog VCR with Composite Video and S-Video with Audio Connections
Audio Connections
A/V Surround Sound Receiver or Stereo System
DVD Player with Component Video
Satellite Receiver with S-Video
DTV Connectors and Adaptors
Component Video Connections
External Digital TV (DTV or HDTV) Receiver with RGB, HV Connections
RGB, HV Connections
External DVI Device with DVI-HD
Computer with a PC Monitor Output
IR Emitter NetCommand
IR Repeater
IR Emitter NetCommand ® or IR Repeater
Helpful Hints
Using the System Reset Button

mitsubishi tv software

Unpacking the TV's Accessories

Special Features

Front Control Panel Buttons

system reset

Front Control Panel Memory Card

Remote Control Functions: Overview

Remote Control Functions: Operation and Care

Programming the Remote to Control NetCommand® A/V Products

Programming the Remote to Control NetCommand

A/V Products

Graphical Menu System

Using the Remote Control with NetCommand® Setup

control buttons

NetCommand ® Initial Setup Guide

NetCommand Editing Guide

NetCommand ® Initial Setup

Edit NetCommand ® , Adding an A/V Receiver

Edit NetCommand ® , Adding Devices

Edit NetCommand ® , Change or Delete Devices

Finish Screen

Connecting IEEE 1394 Devices

adding ieee 1394 devices automatically

Automatically Adding IEEE 1394 Devices

Device Selection Menu

PIP Device Selection Menu Displaying and Using the Transport Menu

sleep timer

recording setup

netcommand ® controlled recordings

record list screen

main menu choices

Setup Menu

antenna menu

Antenna Menu

Time Menu

set time

time zone

Captions Menu

digital captions

digital settings

analog captions

background opacity

V-Chip Lock Menu

A/V Settings Menu

video mute

audio settings

Advanced Menu

reset color

NetCommand ® Controlled Peer-to-Peer Connections

NetCommand Remote Control Buttons: Device Menu, Guide

Recording on a NetCommand Traditional VCR

Recording on a Net Command Traditional VCR

track list screen

Memory Card Playback

PC Viewing

Device Menu with NetCommand

Software Updates

Operation of PIP and POP

Display Formats
TV Display Formats
PC Display Formats
component video
specialized device keys
Troubleshooting
Using the System Reset Button
Index
Other ManualsLib Projects

MITSUBISHI
THE BIG SCREEN COMPANY®
Digital

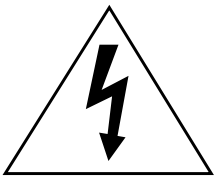
Owner's Guide Book 1

WL-82913

Connections and Maintenance

visit our website at

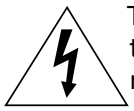
www.mitsubishi-tv.com



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: To assure continued FCC compliance, the user must use a shielded video interface cable with bonded ferrite cores at both ends, when using the PC or DVI input.

Changes or modifications not expressly approved by Mitsubishi could void the user’s authority to operate this equipment.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

NOTE TO CATV SYSTEM INSTALLER: THIS REMINDER IS PROVIDED TO CALL THE CATV SYSTEM INSTALLER’S ATTENTION TO ARTICLE 820-40 OF THE NEC THAT PROVIDES GUIDELINES FOR THE PROPER GROUNDING AND, IN PARTICULAR, SPECIFIES THAT THE CABLE GROUND SHALL BE CONNECTED TO THE GROUNDING SYSTEM OF THE BUILDING, AS CLOSE TO THE POINT OF CABLE ENTRY AS PRACTICAL.

Contents

CHAPTER 1

Television Overview

Unpacking the TV's Accesories 8
TV Delivery and Installation, Cabinet Assembly 9
TV Delivery and Installation, Diamond Shield™ Installation and Removal 11
TV Delivery and Installation, Arc Assembly 12
Special Features 14
Front Control Panel Buttons 15
Front Control Panel Memory Card 16
Back Panel 17

CHAPTER 2

Connecting and Appendixes

External Devices & NetCommand® Setup 20
NetCommand® Pre-Memorized Devices 21
Antenna or Wall Outlet Cable for Digital Broadcasts 22
Separate UHF and VHF Antennas for Analog Broadcasts 23
Single Analog Antenna or Wall Outlet Cable 24
Cable Box 25
Analog VCR to Analog Antenna or Wall Outlet Cable 26
Analog VCR to a Cable Box 27
Analog VCR with Composite Video and S-Video with Audio Connections 28
A/V Surround Sound Receiver or Stereo System 29
DVD Player with Component Video 30
Satellite Receiver with S-Video 31
DTV Connectors and Adaptors 32
External Digital TV (DTV or HDTV) Receiver with Component Video Connections 33
External Digital TV (DTV or HDTV) Receiver with RGB, HV Connections 34
MonitorLink™ with MonitorLink Control 35
External DVI Device with DVI-HD 35
Computer with a PC Monitor Output 36
IR Emitter NetCommand® 37
IR Repeater 37
Helpful Hints 38

Appendix A: Cleaning and Service 39
Appendix A: Cleaning the Dust Filter 40
Appendix B: Lamp Cartridge Replacement 41
Using the System Reset Button 43

IMPORTANT SAFEGUARDS

Please read the following safeguards for your TV and retain for future reference.Always follow all warnings and instructions marked on the television.

1. **Read, Retain and Follow All Instructions**
   Read all safety and operating instructions before operating the TV. Retain the safety and operating instructions for future reference. Follow all operating and use instructions.

2. **Heed Warnings**
   Adhere to all warnings on the appliance and in the operating instructions.

3. **Cleaning**
   Unplug the TV from the wall outlet before cleaning. Do not use liquid, abrasive, or aerosol cleaners. Cleaners can permanently damage the cabinet and screen. Use a lightly dampened cloth for cleaning.

4. **Attachments and Equipment**
   Never add any attachments and/or equipment without approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

5. **Water and Moisture**
   Do not use the TV where contact with or immersion in water is possible. Do not use near bath tubs, wash bowls, kitchen sinks, laundry tubs, swimming pools, etc.

6. **Accessories**

   Do not place the TV on an unstable cart, stand, tripod, or table. The TV may fall, causing serious injury to a child or adult and serious damage to the TV. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the TV. Any mounting of the TV should follow the manufacturer's instructions, and should use mounting accessories recommended by the manufacturer.

   An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. **Ventilation**
   Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the TV and to protect it from overheating. Do not block these openings or allow them to be obstructed by placing the TV on a bed, sofa, rug, or other similar surface. Nor should it be placed over a radiator or heat register. If the TV is to be placed in a rack or bookcase, ensure that there is adequate ventilation and that the manufacturer's instructions have been adhered to.

8. **Power Source**
   This TV should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your appliance dealer or local power company.

9. **Grounding or Polarization**
   This TV is equipped with a polarized alternating current line plug having one blade wider than the other. This plug will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

10. **Power-Cord Protection**
    Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the TV.

11. **Lightning**
    For added protection for this TV during a lightning storm, or when it is left unattended and unused for long period of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the TV due to lightning and power-line surges.

IMPORTANT SAFEGUARDS, cont'd.

12. Power Lines

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

13. Overloading

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

14. Object and Liquid Entry

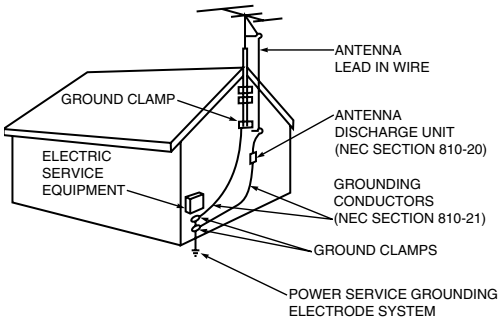
Never push objects of any kind into this TV through openings as they may touch dangerous voltage points or short-out parts that could result in fire or electric shock. Never spill liquid of any kind on or into the TV.

15. Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the TV, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges.

Section 810 of the National Electric Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

EXAMPLE OF ANTENNA GROUNDING


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC — NATIONAL ELECTRICAL CODE

16. Servicing

Do not attempt to service this TV yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17. Damage Requiring Service

Unplug the TV from the wall outlet and refer servicing to qualified service personnel under the following conditions:

(a) When the power-supply cord or plug is damaged.
(b) If liquid has been spilled, or objects have fallen into the TV.
(c) If the TV has been exposed to rain or water.
(d) If the TV does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the TV to its normal operation.
(e) If the TV has been dropped or the cabinet has been damaged.
(f) When the TV exhibits a distinct change in performance - this indicates a need for service.

18. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

19. Safety Check

Upon completion of any service or repair to the TV, ask the service technician to perform safety checks to determine that the TV is in safe operating condition.

20. Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Our Thanks...

Thank you for choosing Mitsubishi as your premier Home Entertainment provider.

This Owner's Guide describes the features and functions of your Mitsubishi widescreen, high definition TV. We urge you to examine this Owner's Guide to become familiar with the innovative features and operations this unique television offers.

The very core of our corporate philosophy is to provide our customers with the very best. Our development team at Mitsubishi has worked to provide you with a television that defines "state-of-the-art," with the capability to meet your needs now and in the future.

Whether this is your first Mitsubishi electronic product, or an addition to your Mitsubishi collection, we believe you and your family will continue to enjoy your Mitsubishi home theater for many years.

Thank you,

Mitsubishi Digital Electronics America, Inc.

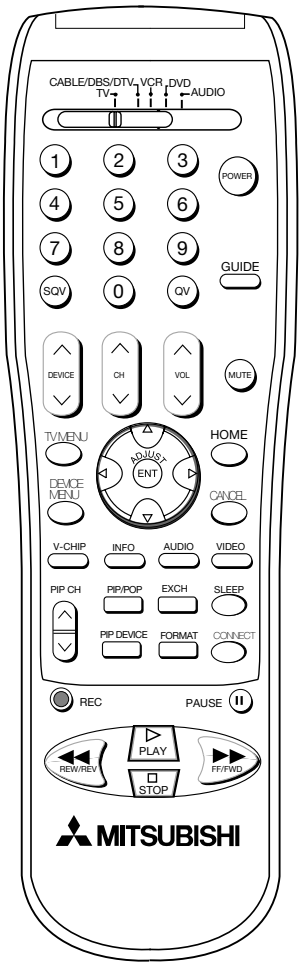
Chapter . . . 1

Television Overview

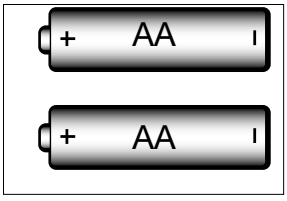
Unpacking the TV's Accesories 8
TV Delivery and Installation, Cabinet Assembly.....9
TV Delivery and Installation, Diamond Shield™ Installation and Removal.....11
TV Delivery and Installation, Arc Assembly 12
Special Features 14
Front Control Panel Buttons.....15
Front Control Panel Memory Card.....16
Back Panel 17

Unpacking the TV's Accessories

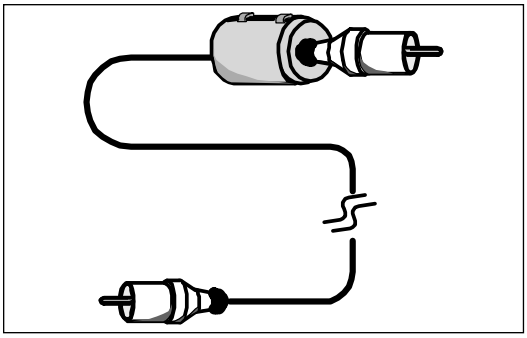
Please take a moment to review the following list of items to ensure that you have received everything including:



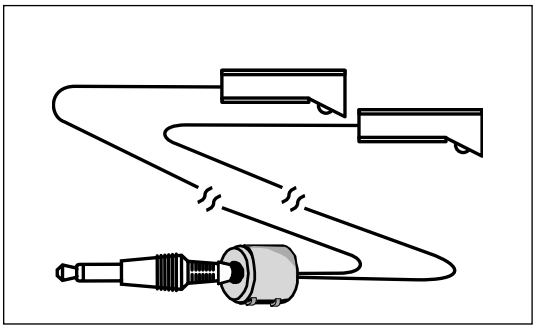
1. Remote Control



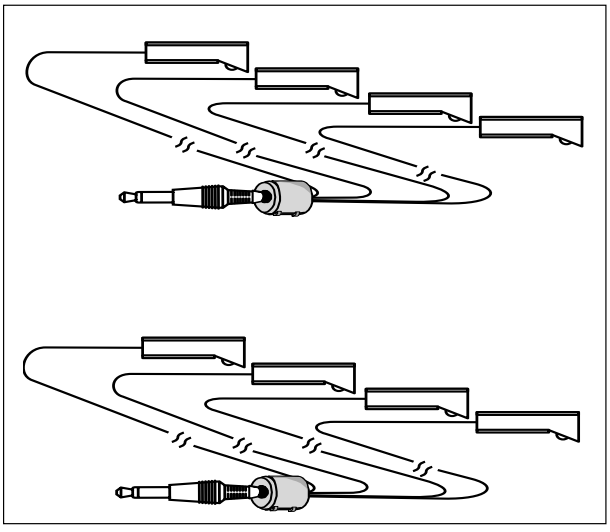
2. (Two) AA Batteries



3. (One) Digital Audio Cable



4. (One) Double IR Emitter Cable



5. (Two) Quadruple IR Emitter Cables

6. Product Registration Card (not pictured)

7. Owner's Guides (Book 1 and Book 2, not pictured)

8. Quick Reference Card (not pictured)

9. (Four) cabinet screws and washers (not pictured)

TV Delivery and Installation, Cabinet Assembly

For Mitsubishi Dealers and Service Personnel Only

The WL-82913 Cabinet has four pieces, consisting of:
TV (two packages)
Diamond Shield (see following pages for assembly instructions)
Arc (see following pages for assembly instructions)

IMPORTANT

This projection television weighs over 500 pounds and has many sensitive components. Any assembly or dismantling procedure should be done by authorized Mitsubishi dealers or service personnel ONLY.

Assembly or dismantling should be done by at least 2 people.

This TV is very heavy! Exercise extreme care when moving TV as foreign material may become embedded in the castor wheels which could damage wood or other delicate flooring.

Cabinet Assembly

1. Carefully remove the bottom cabinet from the packaging and place at desired location on a level floor. Tilting the cabinet can also tilt the lamp cartridge, which may reduce the lamp's life.

2. Carefully remove the speaker grille from the bottom assembly by pulling out each side and temporarily place aside.

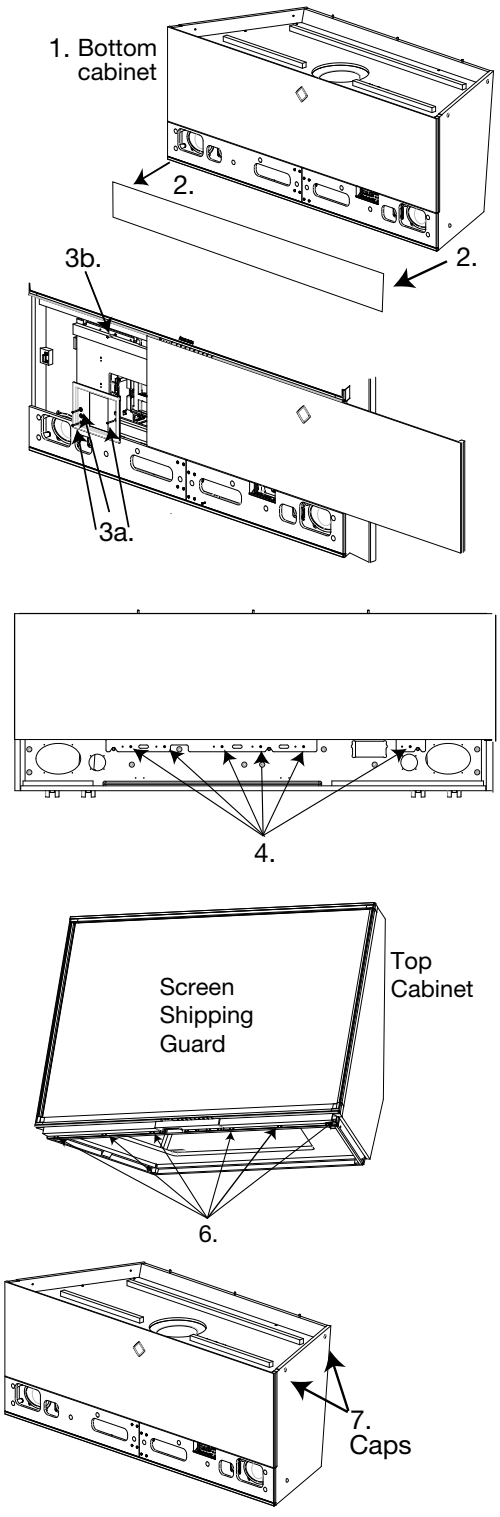
3. Carefully:
   a. Slide the glossy front panel open and remove the three (3) screws securing the plastic lamp cover. Place screws and cover aside.
   b. Remove the front panel assembly top screw located on the top wooden flange above the top track, and set aside.

4. Carefully remove the glossy front panel by slightly sliding the panel closed and then removing the six (6) screws located on the bottom wooden flange below the bottom track. Slide the panel open 3" and then lift upward and swing out. Temporarily place aside. Note: Panel, tracks and track mounting come off the TV as one unit.

5. Carefully remove the top cabinet from the packaging and place on the floor next to the bottom cabinet.

6. Carefully remove the screen frame (with the cardboard screen shipping guard still attached) from the top cabinet by removing the six (6) screws under the screen frame. Gently angle the bottom of the front screen edge outward and lift upward to remove the frame. Temporarily place the screen frame assembly aside.

7. Remove the top two black glossy caps from each side.



TV Delivery and Installation, Cabinet Assembly, continued

8. Carefully lift the top cabinet onto the bottom cabinet by aligning the inside edge of the top cabinet to the inside edge of the bottom cabinet. KEEP FINGERS CLEAR OF ALL JOINTS DURING ASSEMBLY.

9. Insert the two top screws (from the accessory bag), on each side, securing the top back screw first. If you are installing the optional Arc Assembly, then slightly loosen (4 mm) the front top and bottom screws and place the black glossy caps only over the back screw. If you are not installing the Arc, tighten the front screw and replace both caps.

10. Carefully remove the Preamp board from the packaging bag and assemble to the bottom cabinet. Attach wiring by clicking the plastic wire harness together.

11. Remove the black plastic lens cap, to the left of the preamp board, by pulling the cap straight up and off.

12. Carefully lift the screen frame (including the cardboard screen shipping guard) into place. To secure the frame, the top should rest into the cabinet's metal brackets at the top, while the bottom is angled 45° outward. Swing the frame into place and gently push down starting at the center and working to the outside.
Once in position, install the six (6) screws removed in step 6.

13. Connect the two lead wires from the screen frame's control panel to the bottom cabinet by clicking the two plastic wire harnesses together.

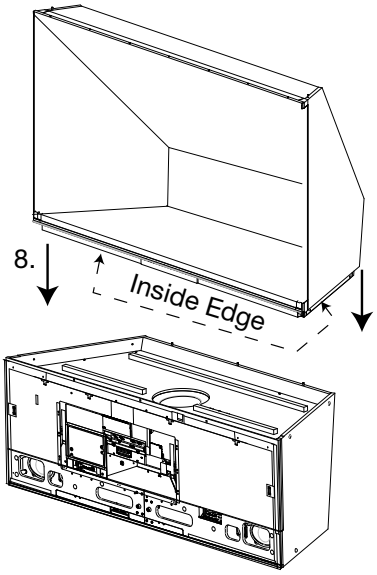
14. Carefully lift the glossy front panel into place. Slide the panel upward toward the screen frame and gently rest on the three dowel pins. Install the top screw removed in step 3b. Slide the front panel door closed. Install the six (6) screws removed in step 4.

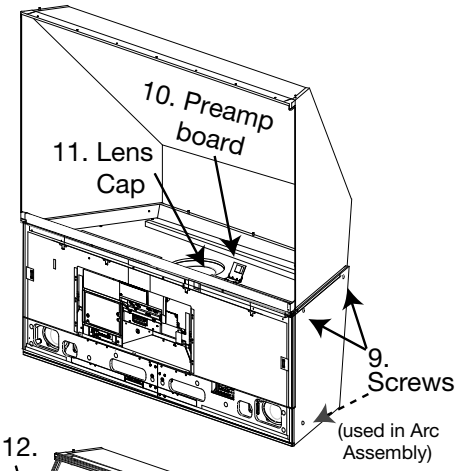
15. Carefully slide the front panel open and install the plastic lamp cover and the three (3) screws removed in step 3a.

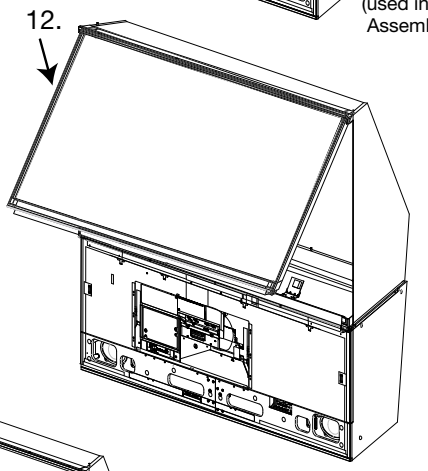
16. Install the speaker grill by pushing the plastic posts into the grommets. Speaker grille should only be installed by hand.

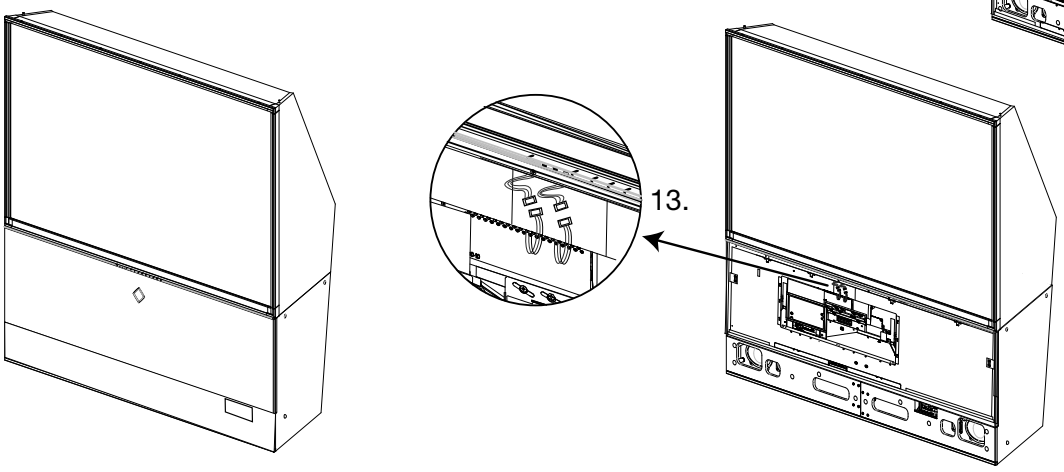
17. Remove the cardboard screen shipping guard from the front of the screen assembly by removing the tape around the frame.

To dismantle this TV, please reverse the steps, starting with step 14.







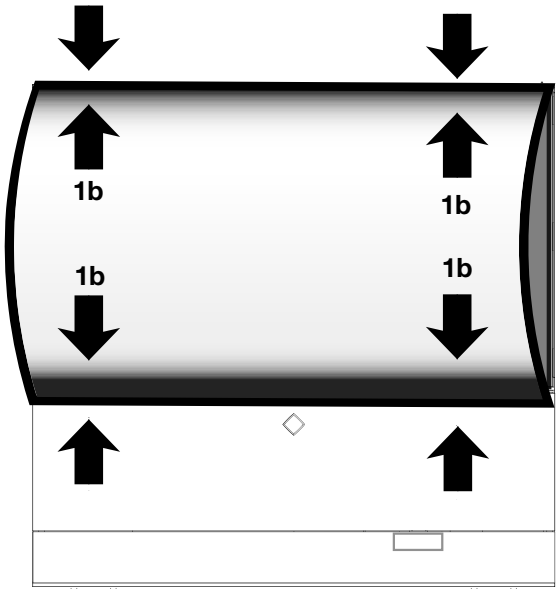


TV Delivery and Installation, Diamond Shield™ Installation and Removal

Included in the Diamond Shield package are the following items:

(1) Diamond Shield with pre-installed molding clips

Because of the screen size, it is recommended that two people install or remove the Diamond Shield.



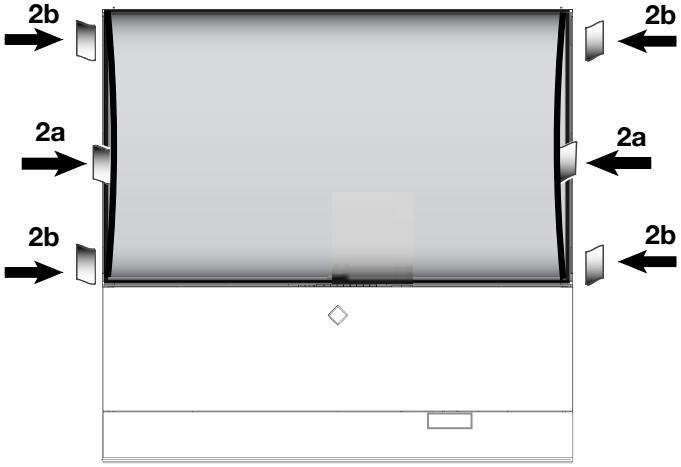
1. To Install the Diamond Shield:

a. While wearing soft cotton gloves, carefully remove the Diamond Shield from the protective packaging. Wipe off any dust with a lint-free cloth. Do not use any cleaners on the anti-glare Diamond Shield.

b. The bottom of the Diamond Shield has a Mitsubishi logo. With one person on each side of the Diamond Shield, begin by sliding this end into the bottom channel. Then, gently bow the shield toward you and insert the top edge into the top channel, under the silver trim on the frame.

c. The three molding clips on the left and right side will now snap into place. Begin by pressing the bottom corner clip into place. Do not force the clips.

This completes the Diamond Shield installation.



2. To Remove the Diamond Shield:

a. While wearing soft cotton gloves, loosen the middle left and right molding clips by pressing a small plastic card (the size of a standard credit card or a clean, plastic, putty knife) into the opening. The middle molding clip will disengage from its slot.

b. Next, loosen the top and bottom left and right molding clips, with the card or plastic putty knife. The entire molding clip will pop out. Do not force the clips.

c. With one person on each side of the Diamond Shield, press on the top edge until it comes out of the channel. Pull the screen up to remove it from the bottom channel. Store the Diamond Shield in its original packaging, if possible.

WARNING

Sharp edges! Always wear gloves to handle, lift, install and remove the Diamond Shield.

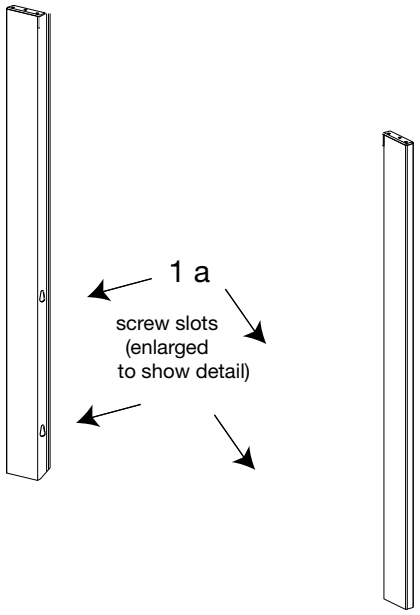
TV Delivery and Installation, Arc Assembly Installation

NOTE: The use of the Arc Assembly is optional. It is an enhancement to the TV cabinet appearance.

The Arc for the WL-82913 should be assembled and installed after the Cabinet Assembly and Diamond Shield Installation. It is recommended that 2 people assemble this unit.

The Arc includes the following:

2 interlocking top pieces
2 leg pieces
8 screws
2 dowel pins



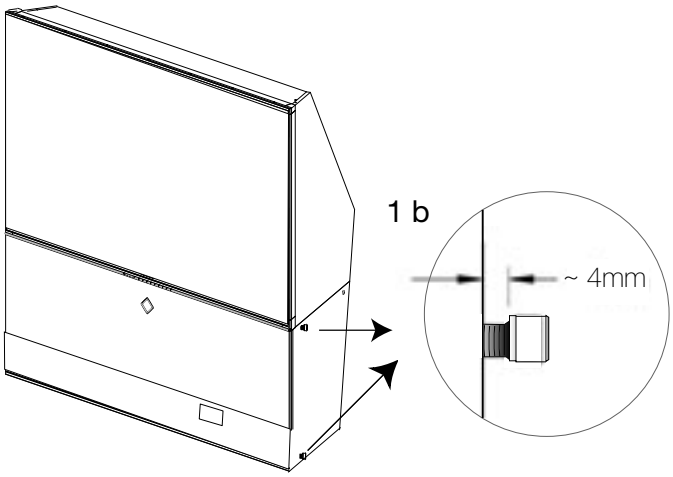
Arc Assembly and Installation

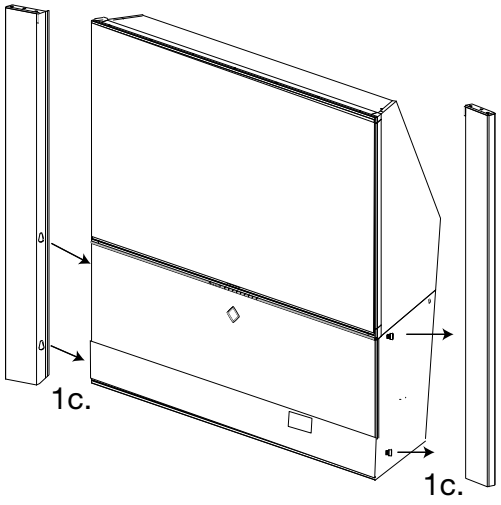
1. Arc Sides:

a. Note the location of the two screw slots on the inside of each arc assembly leg. These slots fit over the cabinet side front screws.

b. Remove the glossy caps and then loosen the two front screws, of the cabinet assembly. There should be at least 4mm of clearance between the screw head and the cabinet surface.

c. Carefully fit the Arc sides onto the TV. The screws on the TV will fit into the screw slots on the Arc .





TV Delivery and Installation, Arc Assembly Installation, continued

2. Arc Top:

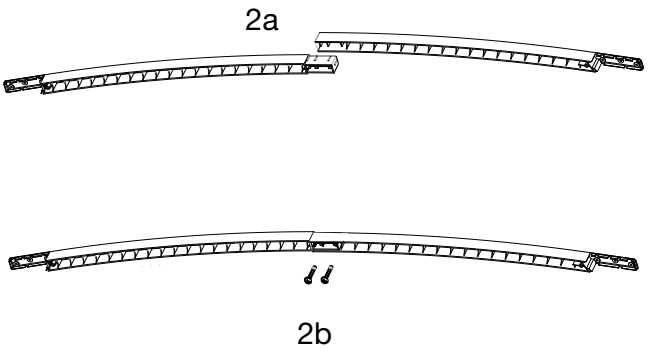
a. Fit the top two pieces together. These pieces interlock in the middle.

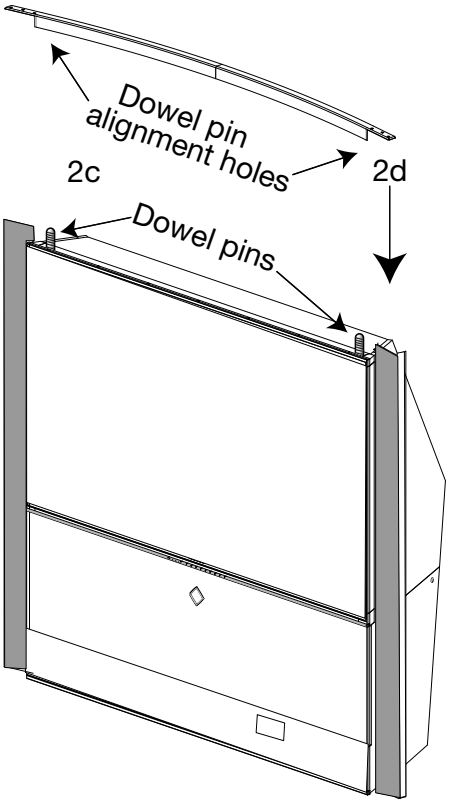
b. Insert two of the screws into this middle section from the bottom.

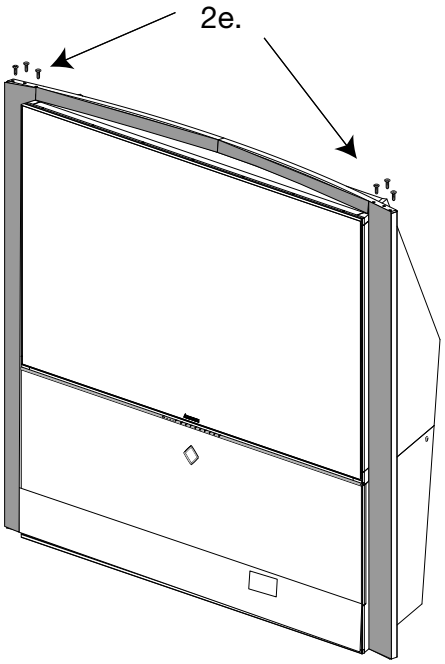
c. Remove the two dowel pins from the Arc accessories bag and install them on top of the cabinet.

d. Carefully place the assembled arc top piece onto the TV. The dowel pin alignment holes on the arc top will fit into the dowel pins. The arc top will snap into the arc sides.

e. To secure the arc top to the arc sides, use the remaining six screws. The screws are inserted from the top, three on each side.







Special Features

Your new High Definition bigscreen television has many special features that make it the perfect center of your home entertainment system. These special features include:

High Definition 3-chip LCoS Display System

Your Mitsubishi bigscreen HDTV uses the latest in display technology -- Liquid Crystal on Silicon or LCoS. This system uses three LCoS chips (one chip for each of the primary colors of red, green and blue), each with a 1920 x 1080 pixel pattern to create the image. This technology uses reflective panels instead of phosphors, providing a brilliant high definition image with no phosphor aging.

This TV is truly a high performance multimedia monitor uniquely capable of both stunning high definition video images and clear detailed high resolution PC images. Your TV is able to accept video signals in the standard video scanning rates of 480i, 480p, 720p and 1080i. It is also able to accept PC resolutions from VGA (640 x 480) through WXGA (1365 x 768). When using a compatible graphics card and controlling software, this TV is also able to accept custom PC resolutions of 720p (1280 x 720) and 1080p (1920 x 1080). The WL-82913 is currently the largest self-contained rear projection TV available.

Fully Integrated HDTV

Your Mitsubishi bigscreen TV can receive all approved terrestrial broadcast digital signals, non-scrambled digital cable signals, terrestrial analog signals and non-scrambled analog cable signals that use a standard offset carrier system. Further, your TV will display all High Definition signals as 1080p. True HDTV™ and all standard definition signals will also be displayed as 1080p.

NetCommand® Home Network Control System

Your Mitsubishi bigscreen HDTV offers a new level of networking to combine selected older products with new and future digital products. NetCommand supports IEEE 1394 connections, HAVi (Home Audio Video Interoperability) Control system, Audio Video Control system (AV/C), 5C copy protection and IR control of selected older products such as VCRs, DVD players, cable boxes or satellite receivers. NetCommand includes the ability to learn remote control signals directly from many remote controls, allowing you to customize the NetCommand system in a way that works best for your viewing.

Wide Screen Picture Format

Enjoy a full theatrical experience in the comfort of your home. View pictures as film directors intended them. Both digital television broadcasts and DVDs support the widescreen format well-suited for your new TV.

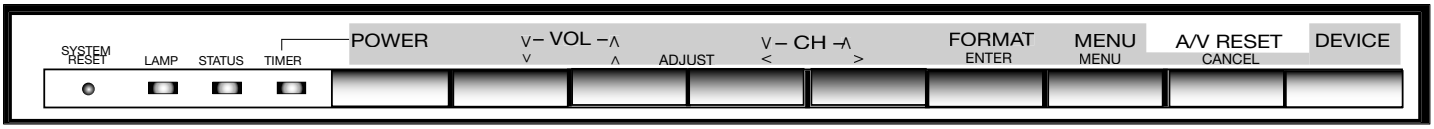
PIP/POP Viewing Option

Using Picture-in-Picture and Picture-outside-Picture will give you exciting options for viewing your favorite programs.

V-Chip Technology

Your Mitsubishi bigscreen will allow you to restrict viewing of programming by general content, category contents, or even by time.

Front Control Panel Buttons



The buttons on the Front Control Panel highlighted in gray are duplicated on the remote control. The top row of labels show the control functions when there are no TV menus displayed on the screen. The bottom row of labels show the control functions when the TV menus are displayed on the screen or when a special function has been activated. See Remote Control Overview in book 2, for further details on the functions of these buttons.

System Reset

If the TV will not respond to either the remote control or the front panel controls and will not power off, press the SYSTEM RESET button with a pointed item like the end point of a paperclip. The TV will turn Off and the TIMER light will flash quickly for about one minute. When the TIMER light stops flashing, you may turn on the TV again. The changes you made while the TV was On before you used the SYSTEM RESET button may be lost, however, the changes that were previously saved are not lost.

Indicators

Please refer to the table below for conditions when the indicator lights will display.

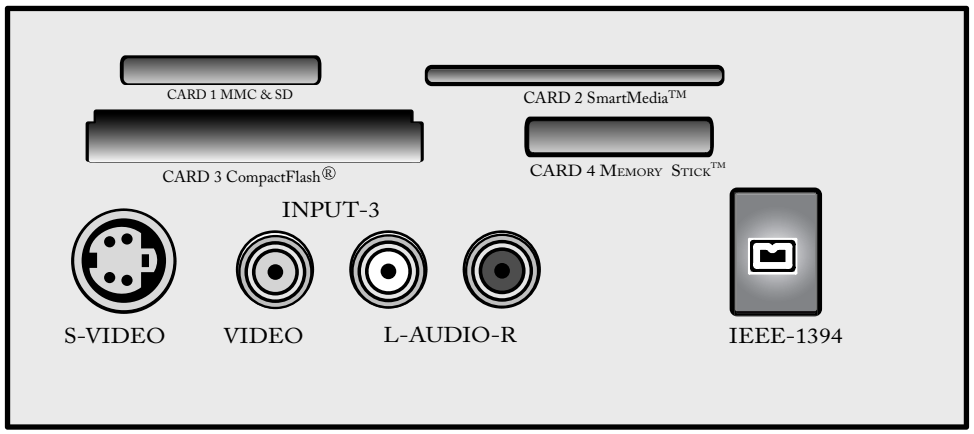
COLOR	LAMP	STATUS	TIMER/POWER
None (off)	Power off	Power off	Power off
Green (steady light)	n/a	n/a	Power on
Green (fast blinking light)	n/a	n/a	Starting up*
Green (blinking light)	n/a	n/a	TV Timer is set
Yellow (steady light)	Lamp life end warning. A new lamp should be purchased. See Book 1, Appendix B.	Operating temperature is too high. The dust filter may be dirty See Book 1, Appendix A. or The room temperature too hot. Turn off TV until room is cooler.	n/a
Yellow (blinking light)	Lamp cover door is open or Lamp cartridge not secure. See Book 1, Appendix B.	n/a	n/a
Red	Lamp has failed, replacement is required. See Book 1, Appendix B.	Service required. Turn off TV and call your dealer or a Mitsubishi Authorized Service Center. See www.mitsubishi.com or call 1-800-332-2119.	n/a

*Each time the TV is plugged into the wall electrical outlet, when power is restored after a power failure, after powering On from the Low Energy mode, or using the SYTEM RESET button this light will display for about one (1) minute.

A/V Reset

Press this button to reset all Audio and Video memories to the factory default settings.

Front Control Panel Memory Card



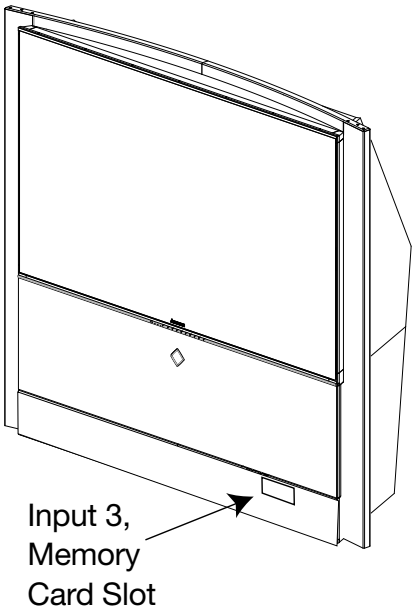
Input 3

This input can be used for convenient connection of a camcorder or other video device to the TV. Please note that if you connect to the S-VIDEO terminal, the VIDEO terminal is deactivated. The VIDEO terminal is active when there is no S-Video connection.

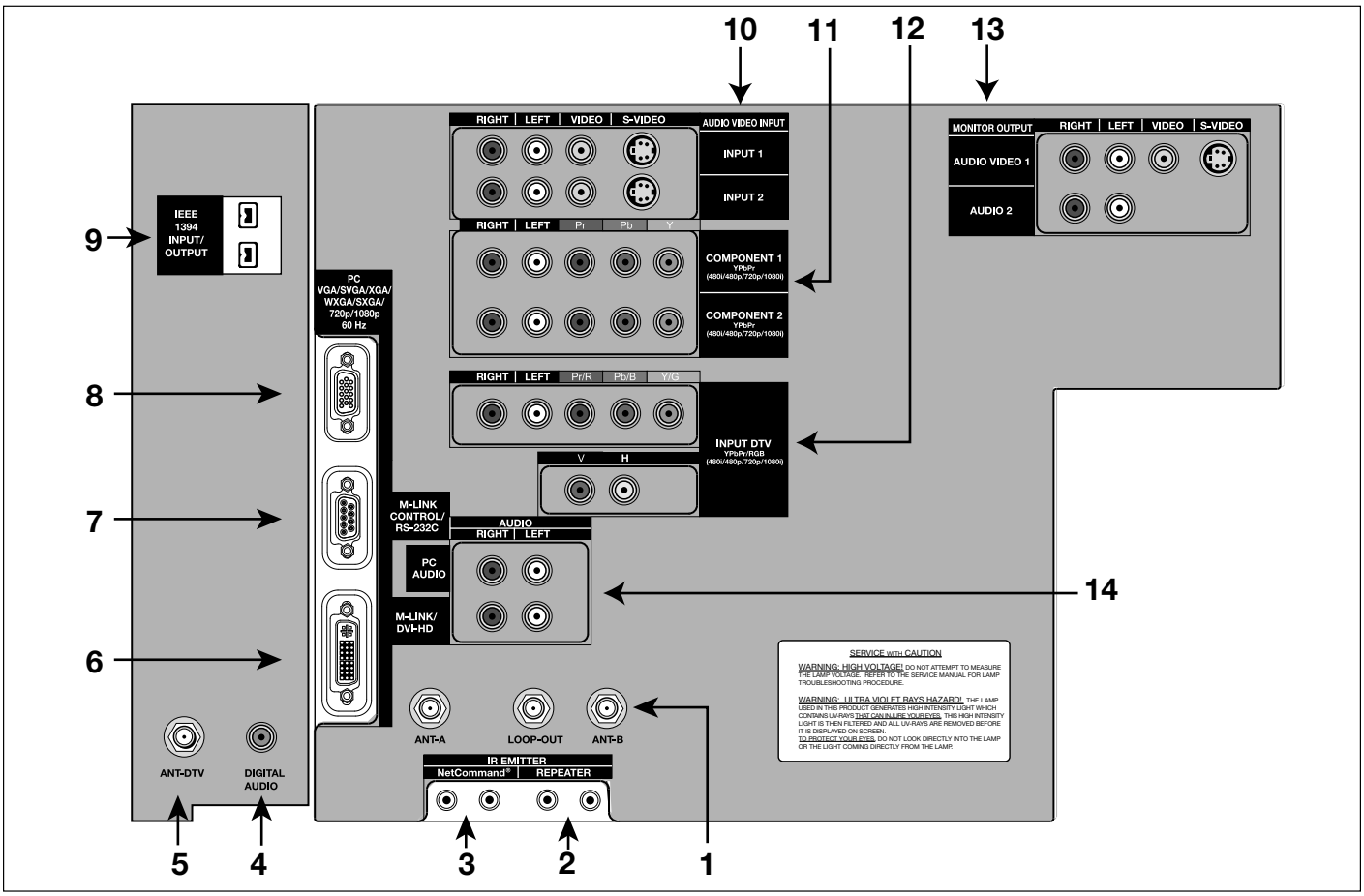
Memory Card Slots and IEEE 1394 input/output

There are four card slots in the front of the TV that allow the display of JPEG pictures from many digital cameras, MP3 or WMA audio files recorded from computers or other digital recording devices. The card slots are designed for specific types of cards and other cards or objects should not be inserted into the slots as this may damage the TV. CARD 1 slot is compatible with both MultiMediaCard™ (MMC) and Secure Digital (SD) cards. CARD 2 slot is compatible with SmartMedia™ cards. CARD 3 slot is compatible with CompactFlash® cards and CARD 4 is compatible with Memory Stick™ cards. See Memory Card (slideshow, playlist) Setup in book 2 for details about JPEG, MP3 and WMA file types that are compatible with the TV.

The IEEE 1394 input/output allows for temporary connection of IEEE 1394 devices such as some camcorders, to the front of the TV. This connection works the same way as rear IEEE 1394 connections, please refer to the NetCommand® chapter in book 2 for details.



Back Panel



1. Antenna (ANT-A, LOOP OUT, and ANT-B)

ANT-A and ANT-B receive analog NTSC signals from VHF/UHF antennas or an analog NTSC cable system. LOOP OUT sends the ANT-A signal out to another component, such as a cable box or VCR.

2. IR Emitter-Repeater

Two jacks are provided for connecting IR emitters. Connecting IR infrared emitters here allows the TV to pass IR commands from most IR remote controls to other A/V devices that are out of range of the remote control.

3. IR Output-NetCommand®

Two jacks are provided for connecting IR emitters. IR Emitters connected to these jacks are used by the NetCommand system of the TV to control external analog devices such as VCRs, DVDs, cable boxes satellite receivers and audio receivers.

4. Digital Audio Output

This output provides Dolby Digital audio, received in the signal from the ANT-DTV input and IEEE-1394 devices. This output is intended to be connected to an external audio receiver that is capable of decoding the digital stream and converting it to analog signals suitable for driving loudspeakers. This output does not send a signal while analog devices connected to other inputs are being use, when MP3 or WMA cards are being played, or when MPEG audio signals are being received. These audio signals are decoded by the TV internally and are output as analog left and right audio to TV speakers by the Monitor Output.

5. Antenna DTV (ANT-DTV)

This input receives digital TV signals from a VHF/UHF antenna or unscrambled digital cable system. If the TV receives scrambled cable signals on this input, it will not be able to decode them. In this case, your cable company must provide a decoding box.

6. M-LINK (MonitorLink™) /DVI-HD

MonitorLink when used with MonitorLink Control is a Mitsubishi exclusive proprietary digital interface for the display of high quality digital video signals from a Mitsubishi HD Receiver/Controller, such as the HD-5000.

The MonitorLink input can also be used as a DVI input from other sources. The left and right audio allow the external Mitsubishi HDTV Receiver/Controller or DVI set-top box to provide audio to the TV to be able to use the TV speakers. When MonitorLink is used as DVI, it is HDCP compatible.

Back Panel, continued

NOTE: When MonitorLink is used as a DVI-HD input, the terminal is compliant with EIA-861 standards for extended and high definition video and is not intended for use with personal computers or devices outputting video signals with computer resolution.

7. MonitorLink™/RS-232C Control

A digital control interface that works in conjunction with MonitorLink. While MonitorLink provides the digital video signal, MonitorLink Control provides enhanced functioning such as automatic power ON/OFF and input selection. If you are not connecting a Mitsubishi HDTV Receiver/Controller with MonitorLink features, MonitorLink Control can be used as an RS-232C control signal input port with an external control system. Please visit www.mitsubishi-tv.com for RS-232 command protocol.

8. PC Video, VGA/SVGA/XGA/WXGA/ SXGA/720p/1080p 60Hz

This input can be used for the connection of a computer. Please see Appendix B in Book 2 for signal compatibility. If NetCommand has not been setup, the on-screen display name will be VGA.

9. IEEE-1394 Input/Output

These jacks allow the TV to connect to external digital products by means of a single cable. Three (two on the back panel and one on the front) jacks are provided for this purpose, which allow for a high degree of flexibility for connecting your system together. Please refer to the NetCommand information later in this book for IEEE-1394 device connection details.

10. Audio/Video Inputs 1-2

These inputs can be used for the connection of a VCR, Super VHS (S-VHS) VCR, DVD player, standard satellite receiver or other A/V device to the TV. Please note that if you connect to the S-VIDEO terminal, the VIDEO terminal is deactivated. The VIDEO terminal is active when there is no S-VIDEO connection.

11. Component Inputs 1-2, YPbPr (480i/480p/720p/1080i)

These inputs can be used for the connection of A/V equipment with component video outputs, such as a DVD player or external HDTV receiver. Please see Appendix B in Book 2 for signal compatibility.

12. Input DTV (480i/480p/720p/1080i)

This input is used to connect an external DTV receiver, and can be configured for YPrPb or RGB plus H&V signal types. Please see Appendix B for signal compatibility.

13. Monitor Output (Audio Video 1, Audio 2)

The Monitor Output sends the TV audio and video signals from Ant-A, Ant-B or Inputs 1-3 to an A/V Receiver or other analog A/V equipment. Ant-DTV and IEEE 1394 sources will be provided as down converted analog signals to the Monitor Output jacks.

There will be no video signals from digital products if the original signals are copy protected. No video signals are provided from PC, Component 1 and 2, MonitorLink or Input-DTV.

For recording with a VCR, use Audio Video 1. When connecting to an A/V Receiver, use Audio 2. If using the A/V Receiver with NetCommand, the Audio 2 output will always be Main, not PIP. If using an A/V Receiver without NetCommand and Audio 2 is set for PIP audio then the PIP's or POP's audio signal is sent to an amplifier or wireless headphones. If no PIP or POP is displayed, the output will not send audio.

14. Audio for PC or MonitorLink/DVI-HD

Audio signals are provided from PC or MonitorLInk/DVI-HD. The top two connectors are audio inputs to be used with the PC input. The bottom two connectors are to be used with MonitorLink/DVI-HD inputs.

Chapter . . . 2

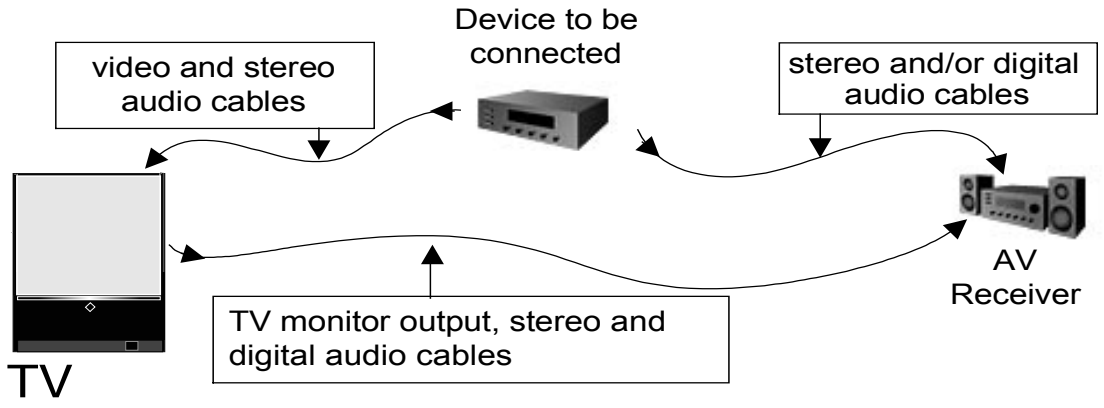
Connecting and Appendixes

External Devices & NetCommand® Setup 20
NetCommand® Pre-Memorized Devices 21
Antenna or Wall Outlet Cable for Digital Broadcasts 22
Separate UHF and VHF Antennas for Analog Broadcasts 23
Single Analog Antenna or Wall Outlet Cable 24
Cable Box 25
Analog VCR to Analog Antenna or Wall Outlet Cable 26
Analog VCR to a Cable Box 27
Analog VCR with Composite Video and S-Video with Audio Connections 28
A/V Surround Sound Receiver or Stereo System 29
DVD Player with Component Video 30
Satellite Receiver with S-Video 31
DTV Connectors and Adaptors 32
External Digital TV (DTV or HDTV) Receiver with Component Video Connections 33
External Digital TV (DTV or HDTV) Receiver with RGB, HV Connections 34
MonitorLink™ with MonitorLink Control 35
External DVI Device with DVI-HD 35
Computer with a PC Monitor Output 36
IR Emitter NetCommand® or IR Repeater 37
Helpful Hints 38
Appendix A: Cleaning and Service 39
Appendix A: Cleaning the Dust Filter 40
Appendix B: Lamp Cartridge Replacement 41
Using the System Reset Button 43

Connecting External Devices & NetCommand® Setup

NetCommand is able to control many current audio and video devices by sending remote control signals from the TV to each device. NetCommand is also able to learn the remote control signals used by most audio video devices not already in the TV's memory. NetCommand will also automatically switch the TV and compatible or learned Audio/Video (A/V) Receivers to the correct input used with each device. It is important that the inputs on the TV and A/V Receiver match the NetCommand Setup.

To simplify the installation of NetCommand, there is a step-by-step on-screen NetCommand Setup procedure. This procedure details the type and brands of devices you are connecting to the TV. The NetCommand Setup also assigns preset TV and A/V Receiver inputs for each device. You should connect each device to the TV input (both audio and video) and to the A/V Receiver (audio) as shown in the figure below.


Device to be connected
video and stereo audio cables
stereo and/or digital audio cables
AV Receiver
TV monitor output, stereo and digital audio cables
TV

The following charts show which preset inputs you should use on the TV and A/V Receiver. Chart 1 shows TV inputs. Chart 2 shows the A/V Receiver inputs used by A/V Receiver models already known by NetCommand.

Device Audio and Video Outputs to TV Inputs	
Antenna/Cable (analog)	Ant-A
Antenna/Cable (digital)	Ant-DTV
Cable box	Ant-B
VCR	Input-1
Satellite Receiver (DBS)	Input-2
Camcorder	Input-3
DVD Player	Component-1

Chart 1.

	Mitsubishi 1	Mitsubishi 2	Bose	Denon	Integra	Kenwood	Marantz	Pioneer 1	Pioneer 2	Rotel	Sony	Yamaha 1	Yamaha 2
	Model M-VR800 & M-VR1000	Model M-VR900 & M-VR700	Model Lifestyle® 28	Model AVR-2700	Model DTR-9.1	Model VR-2080	Model SR8200	Model VSX-D557	Model VSX-49TX	Model RSX-1065	Model STR-DE825	Model RV-X2095	Model RX-V2200
Device Audio Output to AV Receiver Inputs by Name													
VCR	VCR 1	VCR	VCR	VCR-1	Video 1	Video 1	VCR1	VCR/Tape	VCR 1/DVR	Video 2	Video 1	VCR 1	VCR 1
Satellite Receiver	Aux	Cable/DBS	AUX	CD	Video 3	Video 3	DSS	CD	SAT	Video 4	TV/DBS	TV/DBS	D-TV/LD
DVD Player	DVD	DVD	(built-in)	DVDVDP	DVD	Video 4	DVD	LD/SAT	DVD/LD	Video 5	TAPE/MD	CD	DVD
TV Monitor Output (& Digital Audio)	TV	TV	TV	TV/DBS	Video 4	Video 4	TV	DVD/TV	TV	Video 1	DVD/LD	DVD/LD	CBL/SAT

Chart 2.

NetCommand setup details are explained in book 2. After the initial NetCommand Setup, you may go to Edit NetCommand at any time to change the inputs you used for connecting each device, custom name devices, add devices not included in the presets above or delete devices no longer used. You may also want to review Connecting: Helpful Hints, page 38 of this book, for frequently asked quetions about NetCommand connections.

NetCommand® Pre-Memorized Devices

Below is a list of several manufacturers devices tested and shown to be compatible with the NetCommand control system. When you use these devices you will be able to control them without changing the setting of the remote control from TV to another product.

NetCommand may be able to operate additional models since many manufacturers use the same control signals to operate some or all of the models they offer. This chart lists only the models that have been tested with NetCommand. For each manufacturer, models other than those specified may be compatible.

If the manufacturer of the device you own is not listed below or if your device does not operate using the same remote control as the models listed below, you should use the learning feature to add your device to the NetCommand memory.

NetCommand Pre-Memorized Devices

Brand	AV Receiver	Cable Box	DBS Satellite Receiver	DVD Player	VCR
Mitsubishi	M-VR800, M-VR900		SR-HD5	DD-6000, DD-8020	HS-U795,HS-U778
Bose	Lifestyle® 28			Lifestyle® 28	
Denon	AVR-2700				
Echostar			6000		
Funi					F260LA
General Instruments		CFT2200			
Hitachi				DV-P415U	VT-FX665A
Hughes			HIRDE-45, HIRDE-86		
Integra	DTR-9.1			DPS-9.1	
Jerrold		Different Models			
JVC				XV-S65GD	HR-VP 650U
Kenwood	VR2080				
Marantz	SR8200				
Microsoft				XBox™ *	
Motorola		Different Models			
Panasonic			TU-HDS20	DVD-A310	PV-8662
Philips					VR620CAT
Pioneer	VSX-D557, VSX-49TX			DV-414	
RCA			DRD480RE, DTC-100		
Rotel	RSX-1065				
Scientific Atalanta		8600			
Sharp					VC-H810U
Sony	STR-DE825		SAT-A55	DVP-S500D, PlayStation® 2**	SLV-778HF
Toshiba			DTS-300	SD-9200, SD-5109	W-717
Yamaha	RX-V2095, RX-V2200			DVD-S520, DVD-S996	
Zenith			DTV1080		

* XBox™ requires the DVD kit from Microsoft

** Playstation® 2 requires the DVD Remote Controller kit from Sony; DVD Player software disc version 2.10

The remote control signals of most audio video devices can be learned by NetCommand. However, there will be some types of signals that cannot be learned.

For devices not listed in the table above, you can use the learning feature by selecting Other at the [Device] screen. The procedure for this is outlined in the Edit NetCommand section of book 2.

NOTE: There are many different types of remotes and some of them may not be compatible with the learning feature. Bright light near the TV screen can also adversely affect the learning feature. If it is not possible to learn a device, you will need to use the original remote control of the device, or program the TV remote to operate these devices in the traditional manner.

Connecting Antenna or Wall Outlet Cable for Digital Broadcasts

Antenna or Wall Outlet Cable for Digital Broadcasts

Figure 1

For cable or antenna with coaxial lead

Connect the incoming cable to ANT-DTV on the TV back panel.

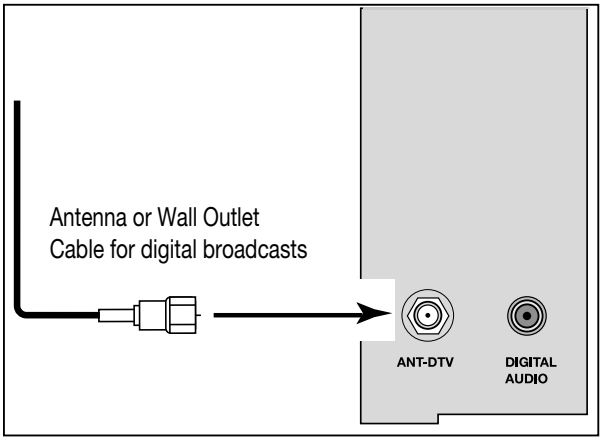


Figure 1. Antenna or Wall Outlet Cable for digital broadcasts

Mitsubishi strongly recommends against using antennas with twin flat leads. Twin flat lead antenna wires are subject to interference which may adversely affect the performance of the TV. We recommend using coaxial antenna cable.

IMPORTANT

Additional connection cables are not provided with the TV. They are available at most electronic stores.

Connecting Separate UHF and VHF Antennas for Analog Broadcasts

Separate UHF and VHF Antennas for Analog Broadcasts

Figure 2

1. Connect the UHF and VHF antenna leads to the UHF/VHF combiner.

2. Push the combiner onto ANT-A on the TV back panel.

Note: UHF/VHF combiners are not provided with the TV. They should be available at most electronic stores.

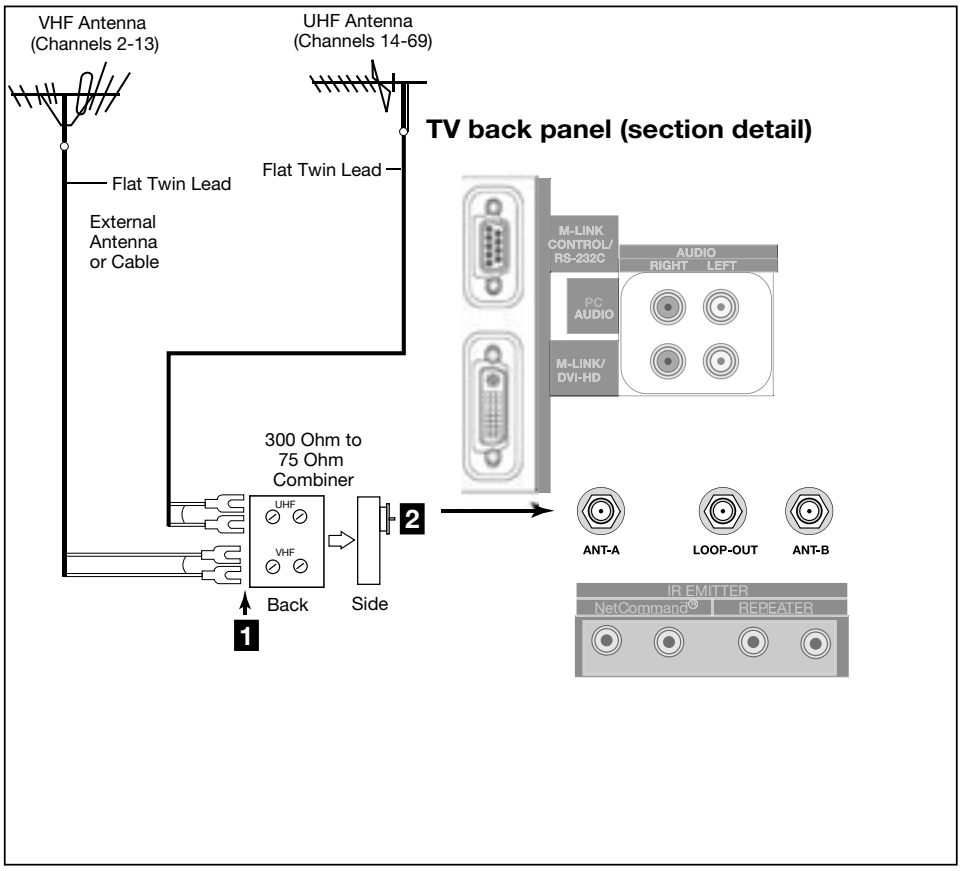


Figure 2. Connecting separate UHF and VHF Antennas

Mitsubishi strongly recommends against using antennas with twin flat leads. Twin flat lead antenna wires are subject to interference which may adversely affect the performance of the TV. We recommend using coaxial antenna cable.

Connecting a Single Analog Antenna or Wall Outlet Cable

Single Analog Antenna or Wall Outlet Cable

Figure 3

For antennas with twin flat lead

1. For antenna with twin flat leads, connect the 300 Ohm twin leads to the 300 Ohm to 75 Ohm transformer.

2. Push the 75-Ohm side of the transformer onto ANT-A on the TV back panel.

Note: 300-Ohm to 75-Ohm matching transformers are not provided with the TV. They should be available at most electronic stores.

For cable or antenna with coaxial lead

3. Connect the incoming cable to ANT-A on the TV back panel.

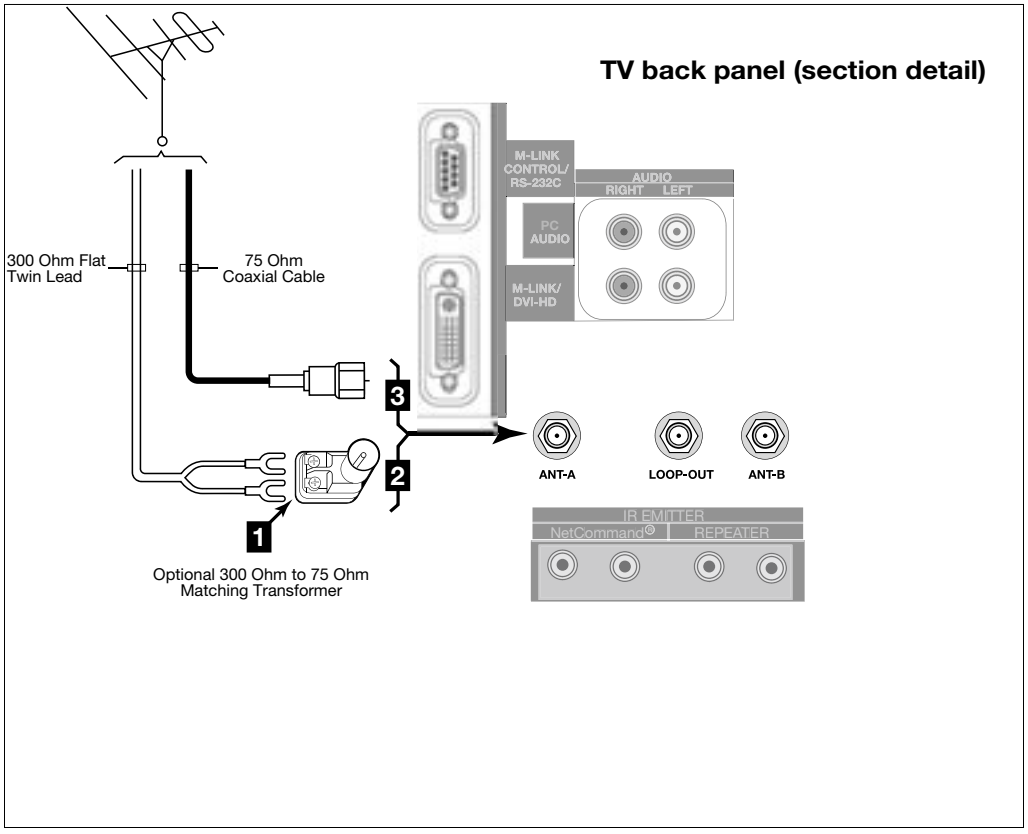


Figure 3. Connecting Antenna or Wall Outlet Cable for Analog Broadcasts

Mitsubishi strongly recommends against using antennas with twin flat leads. Twin flat lead antenna wires are subject to interference which may adversely affect the performance of the TV. We recommend using coaxial antenna cable.

IMPORTANT

Additional connection cables are not provided with the TV. They are available at most electronic stores.

Connecting a Cable Box

Cable Box

Figure 4

1. Connect the incoming cable to ANT-A on the TV back panel.

Note: Connect two coaxial cables as follows:

2. One from LOOP-OUT on the TV back panel to IN on the cable box back panel.

3. One from OUT on the cable box back panel to ANT-B on the TV back panel.

Note: NetCommand assumes that your Cable Box will be connected to Ant-B or your VCR. Also, Channel 3 is the default output channel for the Cable Box. If either the connections or output channel are different, use the Change option of Edit NetCommand to apply the changes.

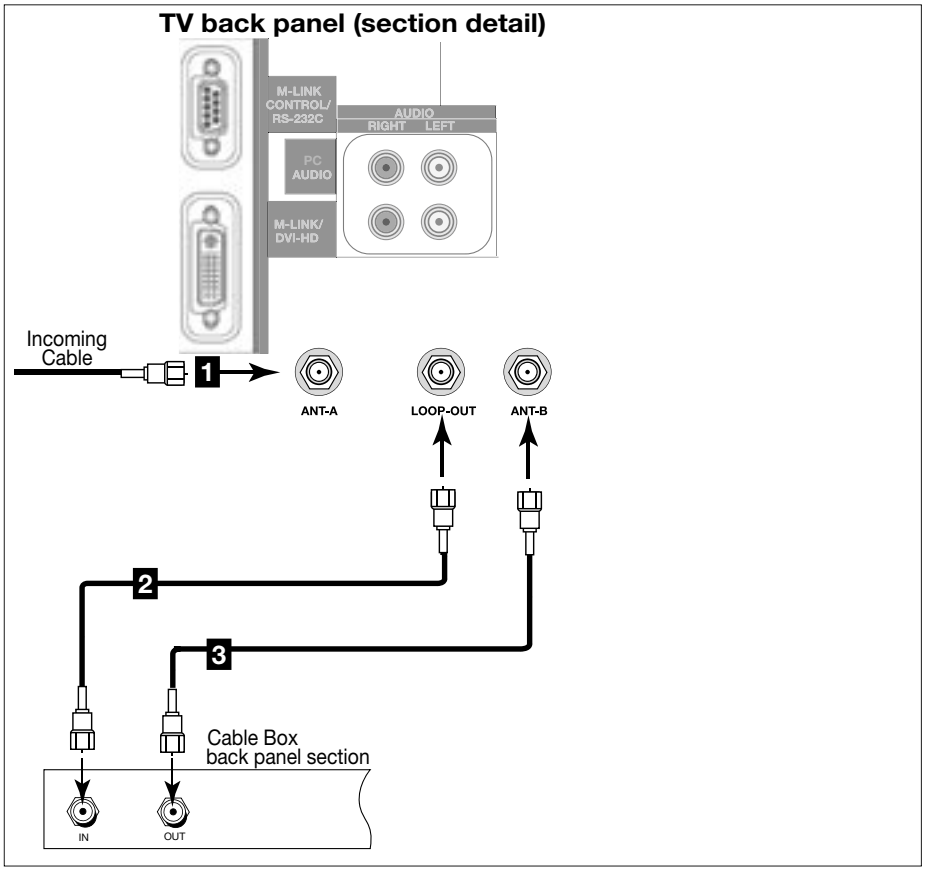


Figure 4. Connecting a Cable Box

IMPORTANT

Some cable boxes send return signals to your cable company in order to continue to operate and may not be compatible with the Loop-Out connector. In this case, use an RF splitter approved by your cable company and connect one output to the TV ANT-A directly and the other to the cable box input. Connect the cable box output to the TV ANT-B as shown.

Connecting an Analog VCR to Analog Antenna or Wall Outlet Cable

Analog VCR to Analog Antenna or Wall Outlet Cable

Figure 5

1. Connect the incoming cable to ANT-A on the TV back panel.

Connect two coaxial cables as follows

2. One from LOOP-OUT on the TV back panel to ANTENNA IN on the VCR back panel.

3. One from VCR back panel ANTENNA OUT to ANT-B on the TV back panel.

4. Now complete *Connecting Composite Video or S-Video and Audio Connections* step 1 and 2 on page 28.

Note: NetCommand assumes that your VCR will be connected to inputs as shown on this and page 28. If you use any other inputs for your VCR or add a second VCR, this change must match in the NetCommand system. See "Editing NetCommand" in book 2 for more information.

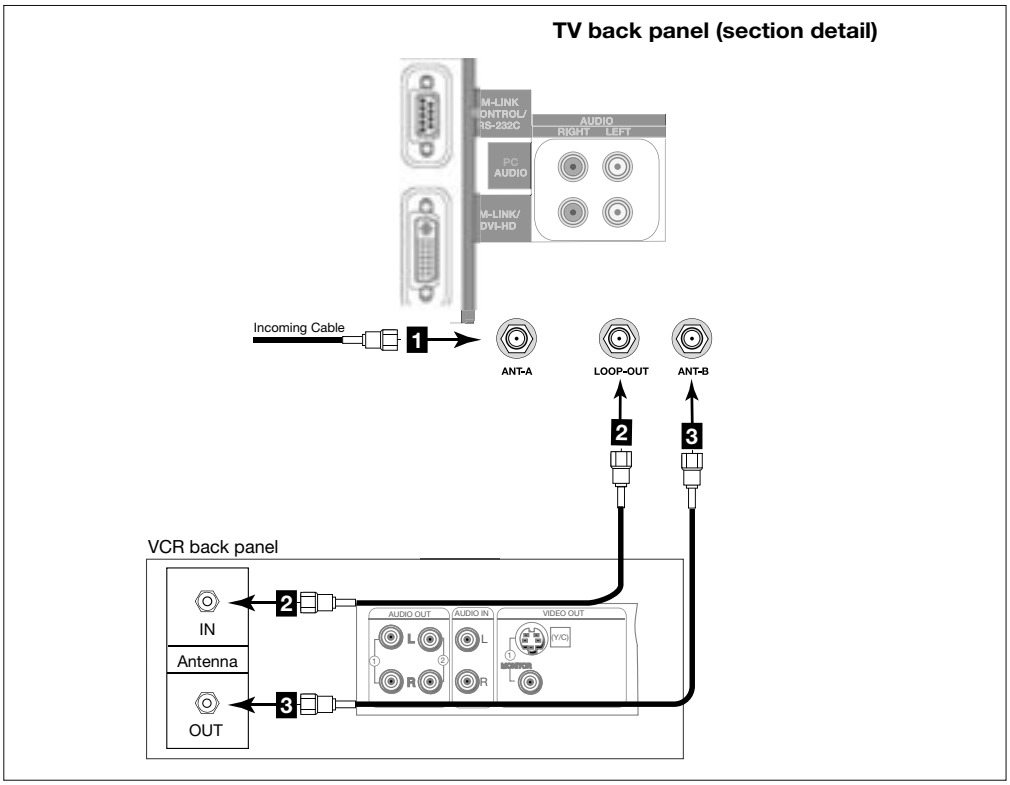


Figure 5. Connecting a VCR to Analog Antennas or Wall Outlet Cable

Connecting an Analog VCR to a Cable Box

Analog VCR to a Cable Box

Figure 6

1. Connect the incoming cable to ANT-A on the TV back panel.

Note: Connect three coaxial cables as follows:

2. One from LOOP-OUT on the TV back panel to IN on the back of the cable box.

3. One from OUT on the back of the cable box to ANTENNA IN on the VCR back panel.

4. One from ANTENNA OUT on the VCR back panel to ANT-B on the TV back panel.

5. Now complete *Connecting Composite Video or S-Video and Audio Connections* step 1 and 2 on page 28.

Note: NetCommand assumes that your VCR will be connected to inputs as shown on this and page 28. If you use any other inputs for your VCR or add a second VCR, this change must match in the NetCommand system. See "Editing NetCommand" in book 2 for more information.

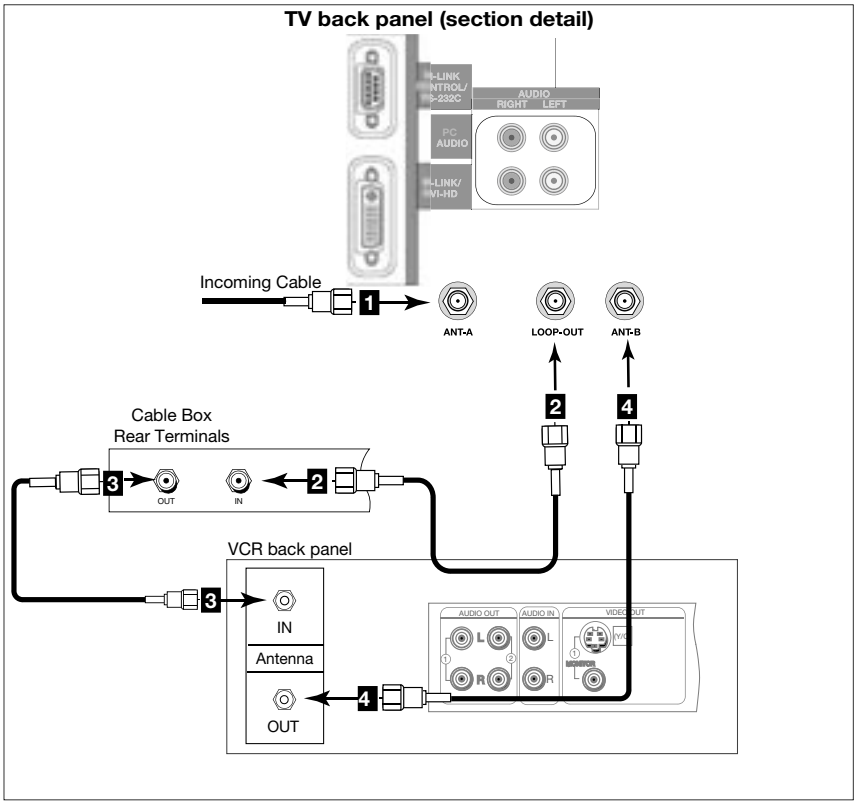


Figure 6. Connecting a VCR to a Cable Box

IMPORTANT

Some cable boxes send return signals to your cable company in order to continue to operate and may not be compatible with the Loop-Out connector. In this case, use an RF splitter approved by your cable company and connect one output to the TV ANT-A directly and the other to the cable box input. Connect the cable box output to the VCR and the VCR output to the TV ANT-B as shown.

Connecting an Analog VCR, continued

Analog VCR with Composite Video or S-Video with Audio Connections

Figure 7

1. Connect a video cable from VIDEO OUT on the VCR back panel to VIDEO INPUT 1 on the TV back panel.

Note: If you have an S-VHS VCR, follow the same steps using the S-Video terminals on the VCR and TV (in place of the composite terminals).

2. Connect a set of audio cables from AUDIO OUT on the VCR back panel to AUDIO INPUT 1 on the TV back panel. The red cable connects to the R (right) channel and the white cable connects to the L (left) channel. If your VCR is mono (non-stereo), connect only the white (left) cable.

Note: Step 2 allows the use of the TV speakers with the VCR.

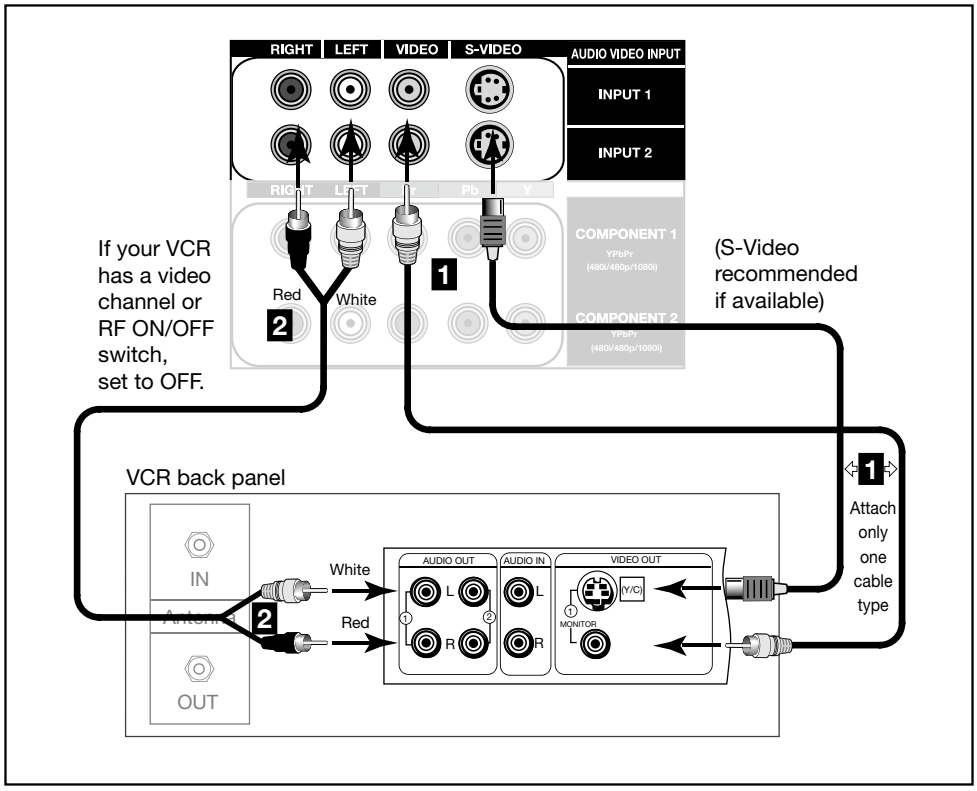


Figure 7. Adding composite Video or S-Video with Audio Connections

Connecting an Audio/Video Surround Sound Receiver or Stereo System

A/V Surround Sound Receiver or Stereo System

Figure 8

1. Connect a set of audio cables from the MONITOR OUTPUT AUDIO 2 on the back of the TV to the TV AUDIO INPUT on the back of the A/V Receiver. The red cable connects to the R (right) channel and the white cable connects to the L (left) channel.

When you connect a digital A/V Receiver with Dolby Digital™ surround sound:

2. Connect one end of the digital audio cable supplied with the TV to the DIGITAL AUDIO OUTPUT on the back of the TV (connect the end of the cable with the ferrite or plastic cylinder). Connect the other end to the COAXIAL DIGITAL INPUT on the back of the A/V Receiver. Check the Owner's Guide for the A/V Receiver for information concerning the use of the digital input and switching between the digital sound and analog stereo sound from the TV.

TV Recording outputs to VCR to record decoded digital signals (not pictured).

1. Connect a video cable from MONITOR OUTPUT AUDIO VIDEO 1 video connection on the back panel of the TV to the VIDEO IN connection on the back of the VCR.

   Note: If you have an S-VHS VCR, follow the same steps using the S-Video terminals on the TV and VCR (in place of composite video terminals).

2. Connect a set of audio cables from MONITOR OUTPUT AUDIO VIDEO 1 audio connections on the back panel of the TV to the AUDIO IN connections on the back of the VCR. The red cable connects to the R (right) channel and the white cable connects to the L (left) channel.

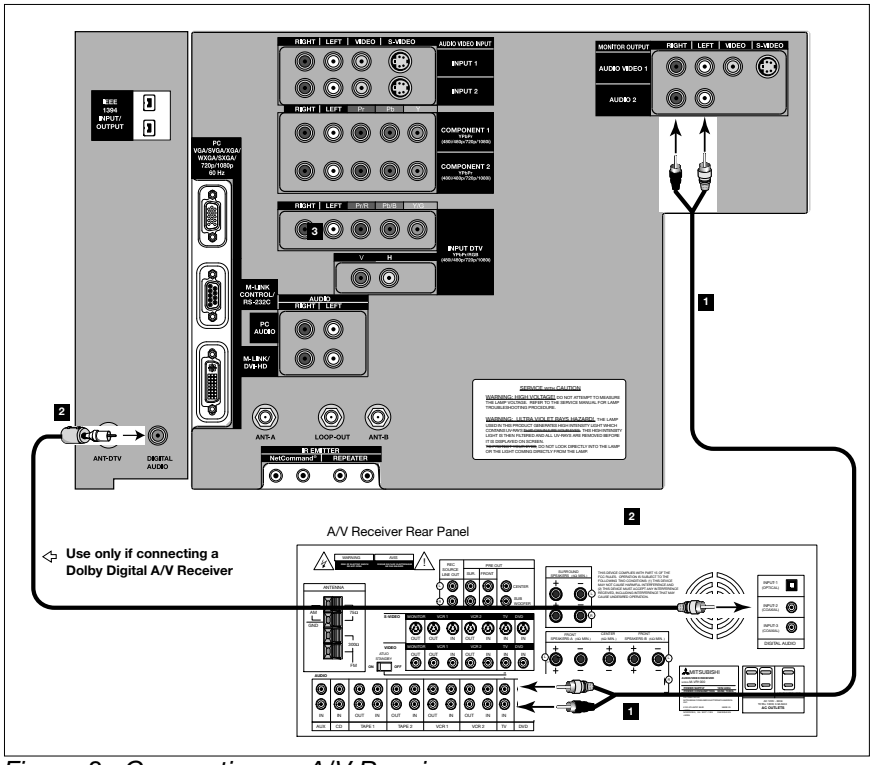


Figure 8. Connecting an A/V Receiver

Connecting a DVD Player with Component Video

DVD Player with Component Video

Figure 9

1. Connect the Component Video cables from Y/Pr/Pb VIDEO OUT on the back of the DVD player to COMPONENT-1 on the TV back panel, matching the correct connection:

    - **Y** to Y
    - **Pr** to Pr
    - **Pb** to Pb

2. Connect a set of audio cables from AUDIO OUT on the back of the DVD player to COMPONENT-1 AUDIO Input on the TV back panel. The red cable connects to the R (right) channel, and the white cable connects to the L (left) channel.

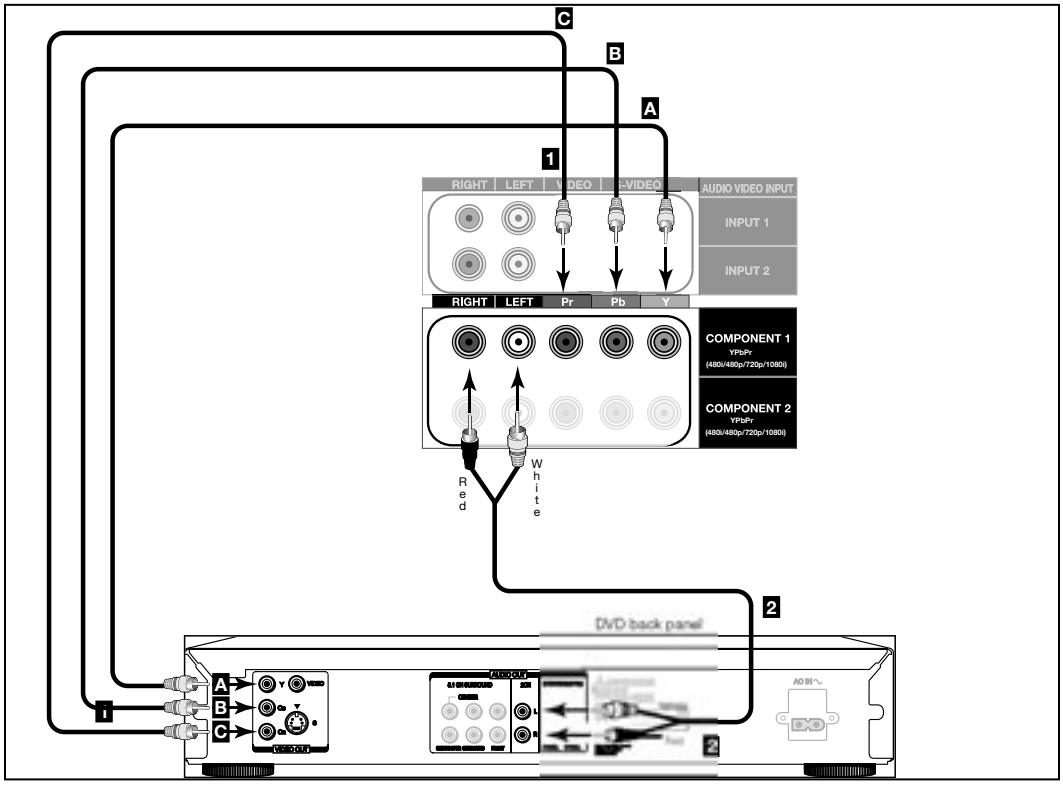


Figure 9. Connecting a DVD Player with Component Video

Note: NetCommand assumes that you connected your DVD to Component 1. If you add a second DVD or use any other inputs for your DVD, this change must match in the NetCommand system. See "Editing NetCommand" in book 2 for more information.

IMPORTANT

See Appendix B in book 2 for component video signal compatibility information.

For digital audio connections, see your A/V Receiver, DVD and Satellite Receiver Owner's Guides.

Connecting a Satellite Receiver with S-Video

Satellite Receiver with S-Video

Figure 10

1. Connect an S-Video cable from VIDEO OUT on the satellite receiver back panel to the S-VIDEO input of AUDIO VIDEO INPUT-2 on the TV back panel.

2. Connect a set of audio cables from AUDIO OUT on the satellite receiver back panel to the AUDIO INPUT-2, on the TV back panel. The red cable connects to the R (right) channel and the white cable connects to the L (left) channel.

Note: Refer to the Satellite Receiver Owner's Guide for Dish Antenna connections.

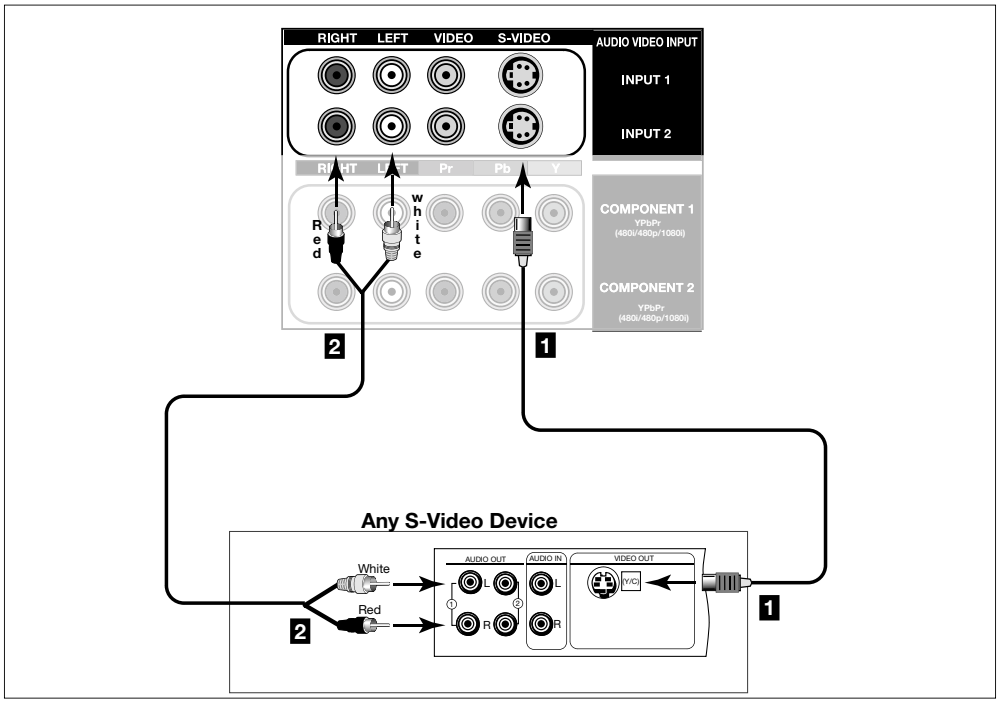


Figure 10. Connecting a Satellite Receiver with S-Video

Note: NetCommand assumes that you connected your Satellite Receiver to Input 2. If you add a second Satellite Receiver or use any other inputs for your Satellite Receiver, this change must match in the NetCommand system. See "Editing NetCommand" in book 2 for more information.

DTV Connectors and Adaptors

Figure 11

The TV back panel has 5 RCA-type connectors for the Input-DTV. The back panel of your external DTV receiver may use RCA-type connectors or BNC-type connectors. If your DTV receiver comes with BNC type connections, you will need to purchase BNC to RCA adaptors to connect the TV to the DTV receiver. These adaptors should be available at most electronic supply stores.

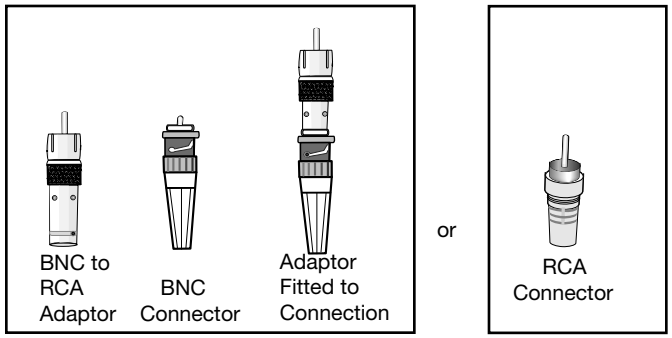


Figure 11. DTV Connectors and Adaptors

IMPORTANT

See Appendix B in book 2 for component video signal compatibility information.

For digital audio connections, see your DTV Receiver and A/V Receiver Owner's Guides.

Connecting an External Digital TV (DTV or HDTV) Receiver with Component Video Connections

External Digital TV (DTV or HDTV) Receiver with Component Video Connections

Figure 12

1. Connect the outside antenna, cable or satellite to ANT or SATELLITE IN on the DTV receiver (see your DTV receiver's owner's guide for instructions and cable compatibility).

2. Connect the incoming terrestrial antenna or cable (not satellite) to ANT-A on the TV back panel (a coaxial splitter, available at most electronic supply stores, may be required to complete this installation).

3. Connect RCA-type cables from the YPrPb outputs on the DTV receiver to Input-DTV on the TV back panel, matching the correct connections:

   DTV Receiver to TV Back panel
   - **Y** to Y
   - **Pr** to Pr
   - **Pb** to Pb

   Note: You may need to set the Input-DTV assignment to YPrPb instead of RGB. Refer to Edit NetCommand® Setup in book 2 for instructions on changing this setting.

4. Connect the L (left) and R (right) audio cables from the DTV receiver to Input-DTV AUDIO on the TV back panel.

   Note: To utilize the benefits of a digital A/V receiver, connect your DTV receiver's digital audio out to a digital input on your digital A/V receiver.

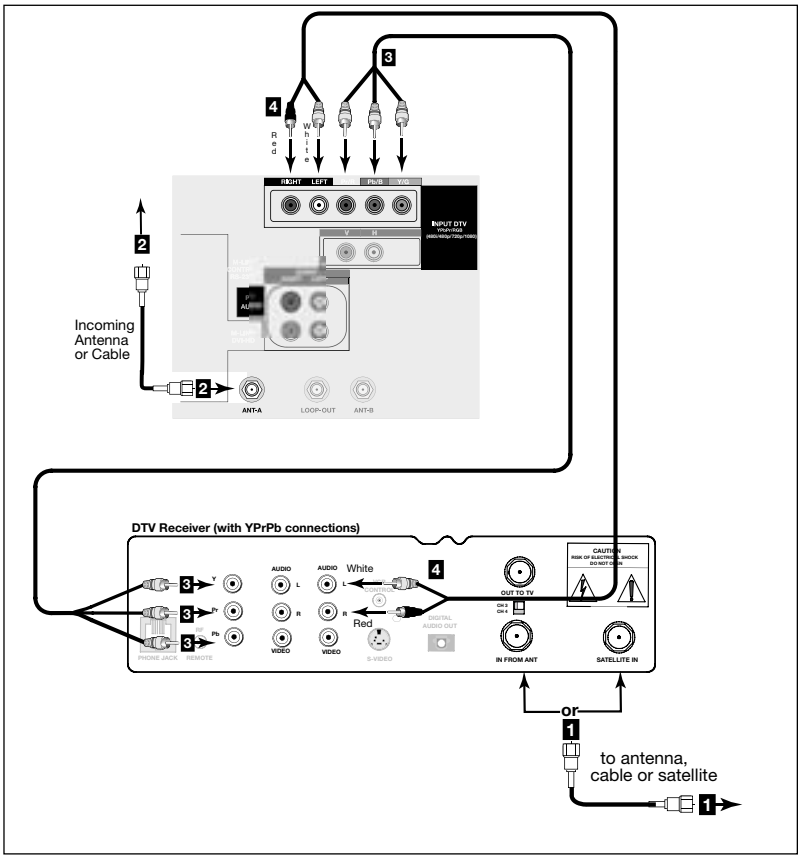


Figure 12. Connecting an External DTV Receiver with Component Video Connections

Connecting an External Digital TV (DTV or HDTV) Receiver with RGB, HV Video Connections

External Digital TV (DTV or HDTV) Receiver with RGB, HV Video Connections

Figure 13

1. Connect the outside antenna, cable or satellite to ANT or SATELLITE IN on the DTV receiver (see your DTV receiver owner's guide for instructions and cable compatibility).

2. Connect the incoming terrestrial antenna or cable (not satellite) to ANT-A on the TV back panel (a coaxial splitter, available at most electronic supply stores, may be required to complete this installation).

3. Connect RGB cables from the DTV receiver to Input-DTV on the TV back panel.

Note: You may need to set the Input-DTV assignment to RGB instead of YPrPb. Refer to the Edit NetCommand® Setup in book 2 for instructions on changing this setting.

DTV Receiver to TV Back Panel

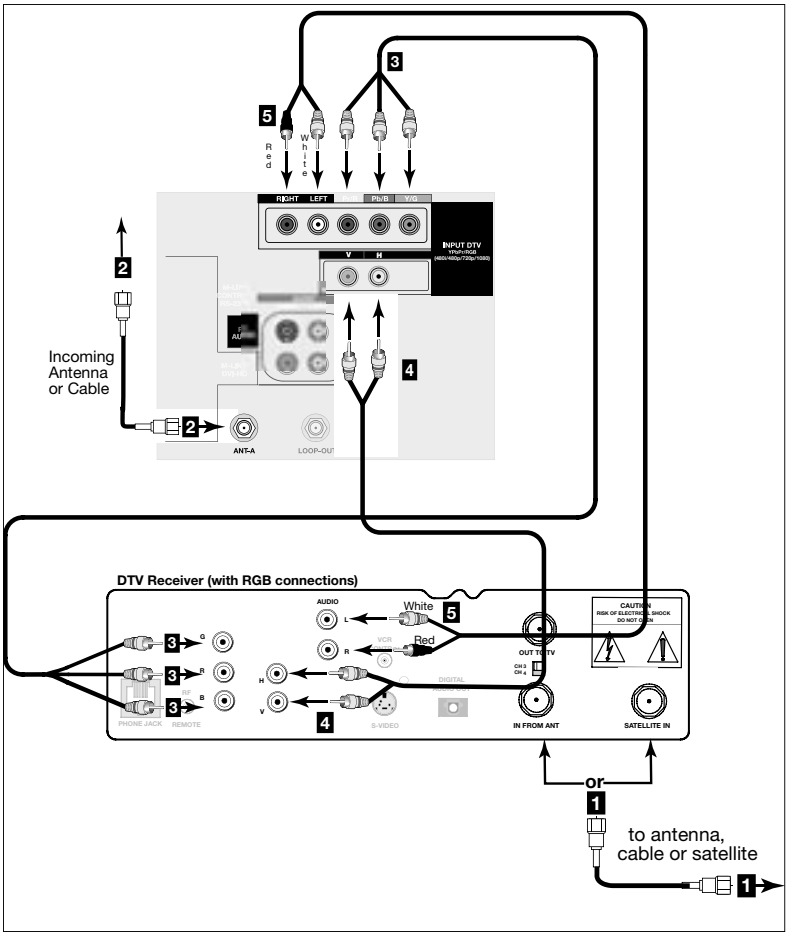
- **G** (green) to Y/G
- **R** (red) to Pr/R
- **B** (blue) to Pb/B

4. Connect the H & V sync signals as shown below:

- **H** (horizontal sync) to H
- **V** (vertical sync) to V

All 5 cables (G,R,B,H and V) must be connected. 3 cables or Sync on green connections are incomplete and will not work.

5. Connect the L (left) and R (right) audio cables from the DTV receiver to Input-DTV AUDIO on the TV back panel.



It may be necessary to obtain a VGA to RGB, HV adaptor cable. These are available at most computer stores and many electronic stores. Some of the adaptor cables have RCA type connector ends, others have BNC type ends and will require adaptors as shown on page 32.

IMPORTANT

See Appendix B in book 2 for RGB, HV video signal compatibility information.

For digital audio connections, see your DTV Receiver and A/V Receiver Owner's Guides.

Figure 13. Connecting an External DTV Receiver with RGB Video Connections

Connecting MonitorLink™ with MonitorLink Control or DVI-HD

MonitorLink and MonitorLink Control

Figure 14

1. Connect a MonitorLink cable from the Mitsubishi Receiver/Controller back panel to the TV back panel.

2. Connect the L (left) and R (right) audio cables from the Mitsubishi Receiver/Controller to AUDIO LEFT and AUDIO RIGHT on the MonitorLink section of the TV back panel.

3. Connect the MonitorLink Control cable from the Mitsubishi Receiver/Controller back panel to the TV back panel.

External DVI Device with DVI-HD

Figure 14

1. Connect a DVI cable from the DVI output of the external DVI type device to the MonitorLink/DVI-HD input on the back of the TV.

2. Connect the L (left) and R (right) audio cables from the external DVI device to AUDIO LEFT and AUDIO RIGHT on the MonitorLink section of the TV back panel.

NOTE: When used as a DVI Input, the MonitorLink input is compliant with HDCP and the EIA-861 standards for standard, extended and high definition video; however, this input is not intended for use with personal computers or devices outputting video signals with computer resolution.

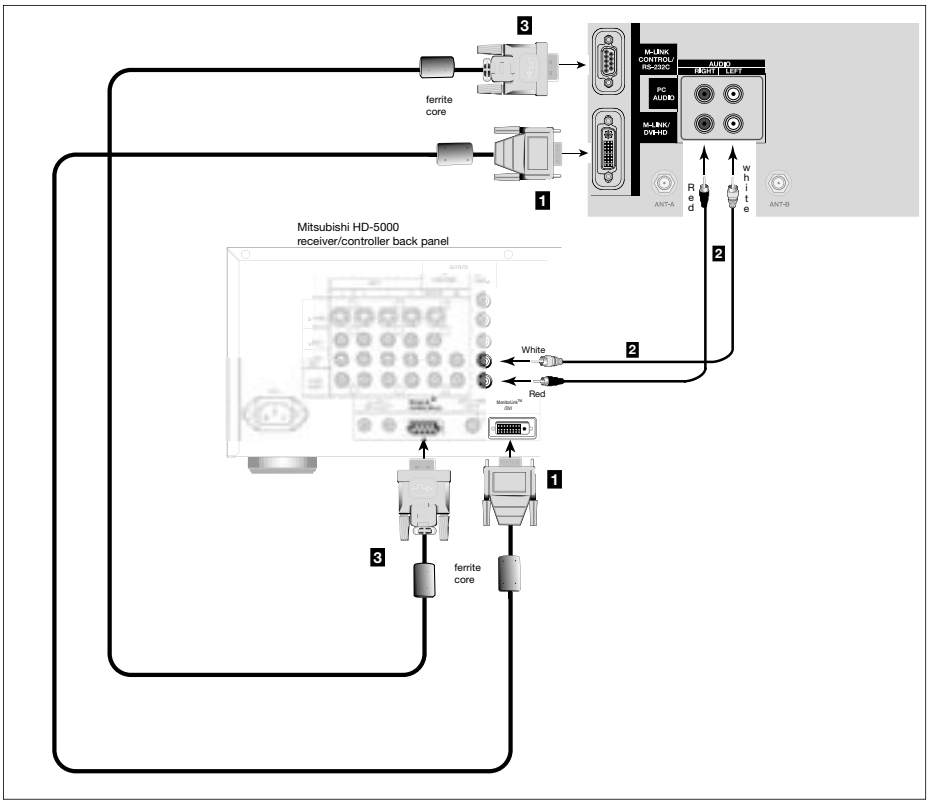


Figure 14. Connecting MonitorLink/DVI

CAUTION: To ensure continued FCC compliance, the user must use a shielded video interface cable with bonded ferrite cores when using the PC input, and with bonded ferrite cores at both ends when using the MonitorLink/DVI input.

Connecting a Computer with a PC Monitor Output

Computer with a PC Monitor Output

Figure 15

1. Connect PC Monitor Out from the computer to PC Input on the TV back panel using a PC compatible monitor cable. See Appendix B in book 2 for PC signal compatibility.

2. Connect the L (left) and R (right) audio cables from the computer to PC AUDIO on the TV back panel. In cases where your computer's audio output is a single mini-jack, a splitter is needed to complete this connection.

Note: To utilize the benefits of a digital A/V receiver, connect your computer's digital audio out, if available, to a digital input on your digital A/V receiver.

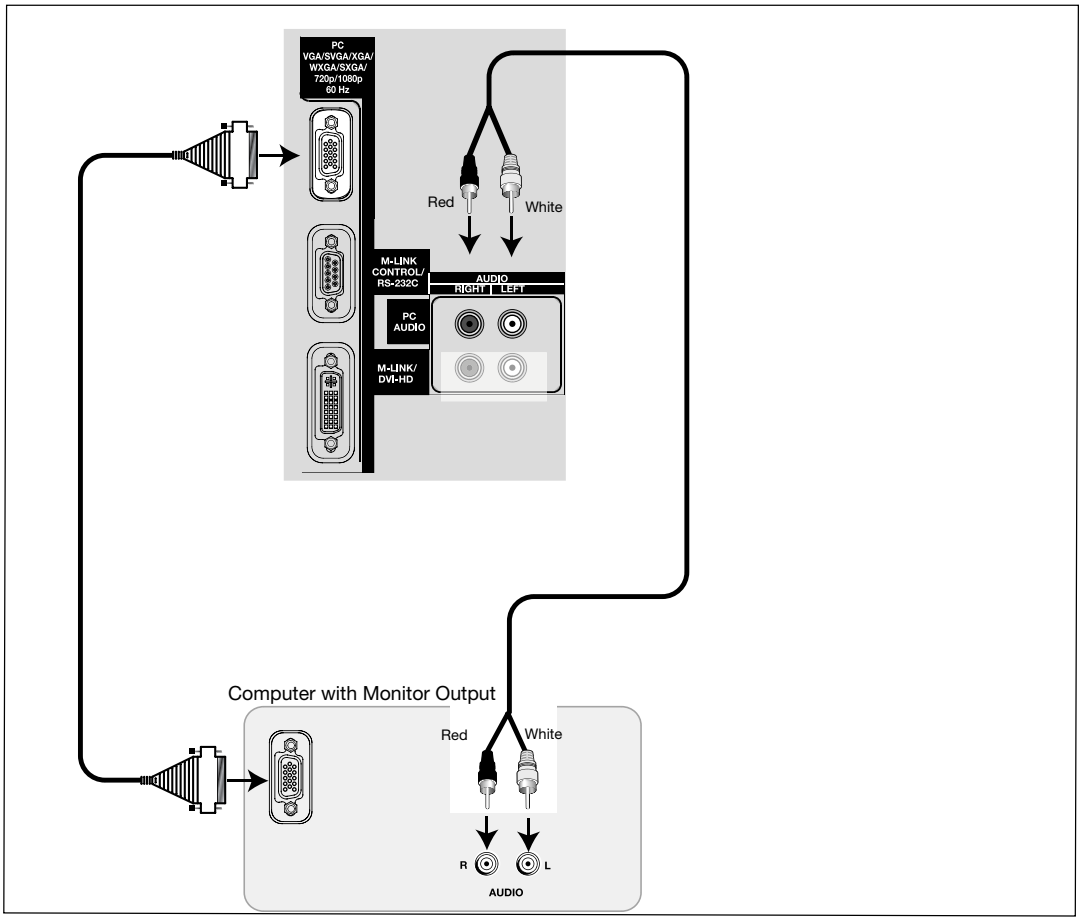


Figure 15. Connecting a Computer with a PC Monitor

CAUTION: To ensure continued FCC compliance, the user must use a shielded video interface cable with bonded ferrite cores when using the PC input, and with bonded ferrite cores at both ends when using the MonitorLink/DVI input.

Connecting the IR Emitter NetCommand® or IR Repeater

IR Emitter NetCommand® or IR Emitter Repeater

Figure 16

IR Emitter NetCommand

The emitters connected to these jacks are used by the NetCommand system to control other devices such as VCR, DVD players, Cable boxes and Satellite receivers.

1A. Connect the plug end of the supplied Quadruple IR Emitter Cable to one of the IR Output NetCommand jacks on the TV back panel.

OR ...

IR Emitter Repeater

The emitters connected to these jacks are not used by NetCommand, but will repeat any IR command received by the TV. These emitters allow the TV to be the remote control sensor for other devices outside the range of the hand-held remote control. Do not use these repeaters with devices that can receive the remote control signal directly, as the signals can interfere with each other.

1B. Connect the IR emitter to IR EMITTER-REPEATER on the TV back panel.

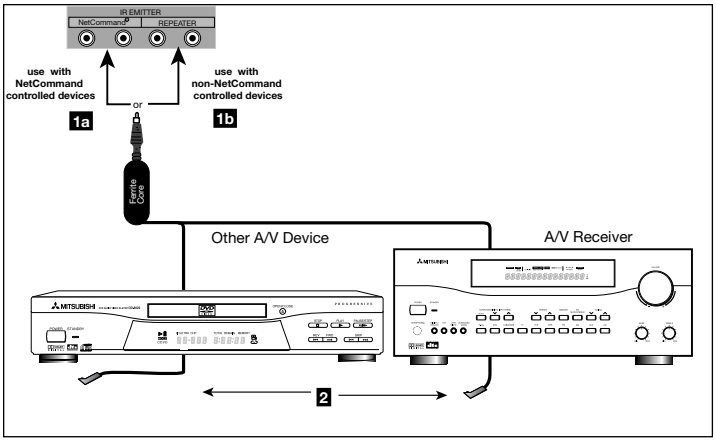


Figure 16. Connecting IR Emitter NetCommand or IR Emitter Repeater

After you have used 1A or 1B,

2. Run the cable for each of the emitter ends under, along side or over the top of each device to be controlled to the area of the front where the remote control sensor is located.

3. Place the emitter end in front of the remote control sensor of the device to be controlled. The emitter bulb should face the remote control sensor. This bulb emits infrared light in a cone shaped pattern. The bulb needs to be placed far enough from the remote control sensor to allow the cone pattern to include the sensor.

The remote control sensor is usually behind the plastic window of the front display panel. It is sometimes visible when you look through the display plastic using a flashlight and is normally a round or square cutout behind the plastic. If you cannot see the sensor and the device's Owner's Guide does not specify the location, you can find it by using the device's remote control. Hold the remote about 1/2 inch from the front of the device. Starting from one end of the display window plastic, press the POWER button.

If the device does not respond, move the remote control 1 inch toward the center and try again. Repeat this until the device responds. Note this location then start over from the other end of the display window plastic, repeating until the device responds again. The remote control sensor will be somewhere between these two positions. This is usually enough accuracy for the placement of the IR emitters.

4. With some devices, the emitter will work better facing downward from the top of the device. Some experimentation may be needed. If you are not going to be using all emitter ends, place the unused ends behind the devices so that they cannot send signals to the remote control sensors.

5. The emitter end being used can be secured in place using double stick tape.

IMPORTANT

If a single emitter end can be placed in a position that will operate more than one device, do not use a separate emitter end for the additional device. A single device receiving remote control signals from too many emitters or remote controls may not respond at all.

Connecting: Helpful Hints

Q My VCR (or other device) does not have two sets of stereo audio outputs; how can I connect this device's audio to both the TV and the A/V Receiver?

A. There are two solutions:

1. Connect the single set of stereo audio outputs to the TV only. Use the Edit NetCommand® feature to "Change" the setup of this device. In the Connection screen part of "Change" make sure both audio and video for the TV input are check marked and neither the audio or the video for the AVR input are check marked. This will allow the NetCommand system to use the TV outputs to transfer the device's audio to the A/V Receiver. See Edit NetCommand Setup.

2. Use RCA type "Y" splitter cables to split the device's audio output to be connected to both the TV and the A/V Receiver.

Q. I have both the TV monitor stereo audio output and TV digital audio output connected to the same input designation on my A/V Receiver, how do I switch between analog audio and digital audio?

A. This depends on the individual A/V Receiver. Some A/V Receivers will switch automatically to digital when a digital audio signal is supplied so you do not need to do anything. Other A/V Receivers can be manually switched by remote control, for these types of A/V Receivers, see Book 2 for NetCommand information regarding this feature. Some A/V Receivers will require that you make this change on the front panel of the A/V Receiver.

Q. The front panel of my A/V Receiver is too tall or too convex for the IR emitter signal to reach the remote control sensor of the A/V Receiver. What can I do?

A. There are several possible solutions.

1. Mount the IR Emitter on the top, front edge of the A/V Receiver over the remote control sensor. Use tape to secure it in place.

2. Mount the IR Emitter on the underside of the self above the A/V Receiver (if the A/V Receiver is in a cabinet). Use double sided tape to secure it in place.

3. Some small stick-on emitters from other manufacturers may be compatible with the IR Emitter – NetCommand® jacks, these may be used instead of the supplied IR Emitters.

Q. I occasionally need to see the menu from my A/V Receiver, how can I connect it to the TV for this purpose?

A. You can connect the video output of the A/V Receiver to an unused input on the TV. Then use the Edit NetCommand to "Add" this as an "Other" device, not an A/V Receiver. On the "Connection", screen indicate which TV input was used and check mark the video box. Make sure the TV input audio box and both the audio and video boxes for the AVR input are not check marked. You should also name this device so you can easily identify it on the Device Selection Menu. Or use Input 3 (camcorder) on the front panel.

Q. I have a high definition receiver I would like to connect and it also has an S-video output I would like to use as well. Is there are way to connect this receiver both ways?

A. Yes, this item will appear twice in the Device Selection Menu. Just add this unit twice, once using the Inp-DTV and once using one of the S-video inputs. Make sure you indicate that this is the same manufacturer for both. We suggest that you connect stereo audio outputs with the S-video to the TV so that you do not need to use two inputs on the A/V Receiver. If this is a NetCommand compatible HDTV receiver with HD or SD outputs that can be switched by remote control. See book 2, page 64 Device Menu and book 2, page 79, Appendix E, for NetCommand control of this feature.

Appendix A: Cleaning and Service

Cleaning
Normally, light dusting with a dry, non-scratching duster will keep your TV clean. If cleaning beyond this is needed, please use the following guidelines:

First, turn off the TV and unplug the power cord from the power outlet.

Top and Sides of the TV:
- Gently wipe down your TV with a soft, non-abrasive cloth such as cotton flannel or a clean cloth diaper, lightly moistened with water. Dry with a second dry, soft, non-abrasive cloth.

- For oily dirt, add a few drops of mild liquid detergent, such as dishwashing detergent to the water used to moisten the cloth. Rinse with a second cloth moistened only with water. Dry with a third dry, soft, non-abrasive cloth.

Screen behind the Diamond Shield™:
- Follow the instructions for the top and sides, however, wipe gently in an up and down motion.

- Clean the entire screen evenly, not just sections of the screen.

- Do not allow liquid to drip down the screen as some liquid may enter the TV between the screen and the screen frame.

- You may purchase Mitsubishi Screen Cleaner, part number CLEANER-VSS, by calling (800) 553-7278.

IMPORTANT

DO NOT use any kind of abrasive or liquid cleaner on the surface of the TV screen or Diamond Shield.

Anti-Glare Diamond Shield™:
Anything abrasive can scratch the anti-glare coating of the Diamond Shield™ and household and window cleaners can remove the coating.

- Follow the instructions for cleaning top and sides, however, moisten the cloth with only water.

- Do not use any cleaning chemicals on the Diamond Shield™.

- DO NOT use Mitsubishi Screen Cleaner on the Anti-Glare Diamond Shield™

Cloth speaker grills:
- Lightly brush with a soft cloth brush, or lint brush.

- If necessary, you can vacuum using the brush and hose attachments of your vacuum cleaner. Do not use the beater brush section on the grill cloth.

General Cleaning Warnings:
- DO NOT allow liquid to enter the TV through the ventilation slots or any crevice.

- DO NOT use any strong or abrasive cleaners as these can scratch the surfaces.

- DO NOT use any cleaners with ammonia, bleach, alcohol, benzine, or thinners as these can dull the surfaces.

- DO NOT spray liquids or cleaners directly on the TV's surfaces, apply to the cleaning cloth.

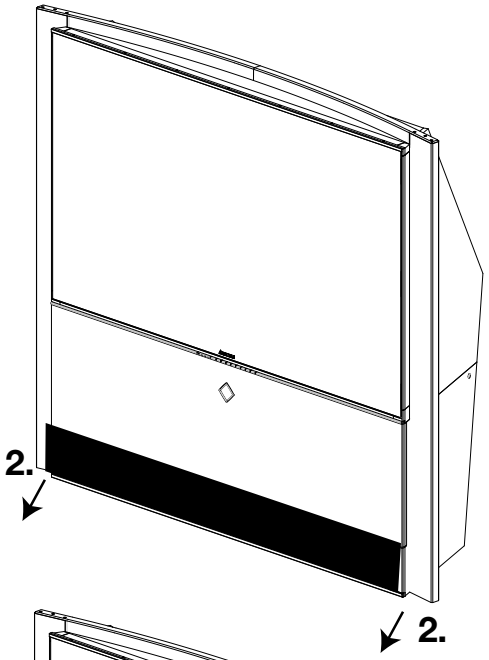
- DO NOT scrub or rub the TV harshly. Wipe it gently.

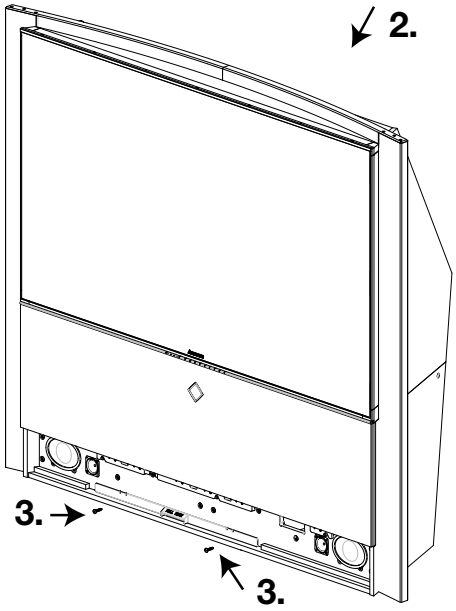
Service
If you are unable to correct a problem with your TV, consult your Mitsubishi dealer or a Mitsubishi Authorized Warranty Service Center.

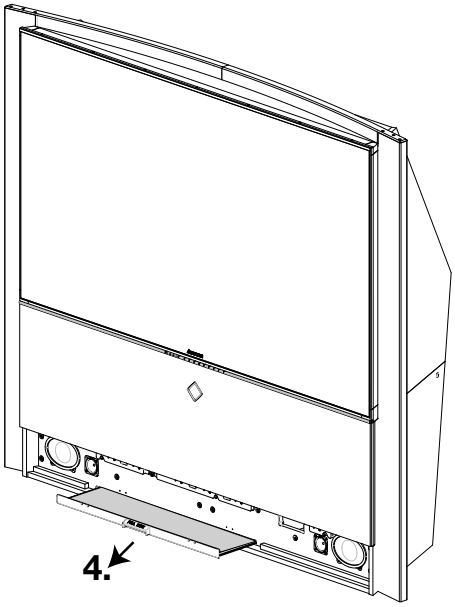
- DO NOT adjust any controls other than those described in the Owner's Guide books.
- DO NOT remove the protective back cover of your TV.

Menus not described and shown in the Owner's guide books are designed for Factory use and for Authorized Service Personnel. Damage caused to the TV by non-authorized changes or changes to these menus made by non-authorized persons are not covered under warranty.

Appendix A: Cleaning the Dust Filter







Clean the filter annually and whenever you replace the lamp cartridge.

1. Turn the television off and unplug the AC cord.

2. Remove the cloth speaker grille by gently pulling out each side. Set the grille aside.

3. With a standard philips screwdriver, remove the two screws that hold the dust filter in place. These are located on each side of the tray handle (labeled PULL HERE).

4. Pull the filter tray out using the handle (labeled PULL HERE). The tray should slide out easily.

5. Clean the filter material by vacuuming with an appropriate dusting attachment.

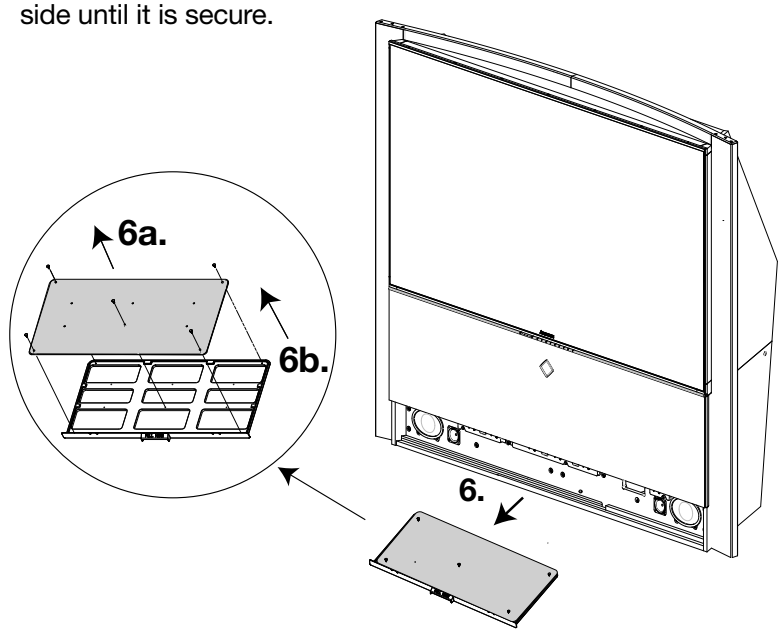
6. If the filter is soiled, you can remove it from the tray,
   a. remove the 5 plastic push pins that hold the filter, then
   b. pull the filter out from the plastic tabs that hold it in place.
   The filter can be rinsed. Do not use detergents or soap when cleaning the filter.

7. Completely air dry the filter before placing it back into the tray. Carefully fit the filter under the plastic tabs and install the 5 plastic push pins.

8. Slide the dust tray securely into place.

9. Secure with the two screws.

10. Snap the speaker grille back into place by pressing on each side until it is secure.



Appendix B: Lamp Cartridge Replacement

Before you replace the lamp cartridge please note the following:

CAUTION: If the television is on, press POWER to turn off and allow the television to cool for one hour before attempting to replace the lamp.

LAMP LIFE
The light source for the WL-82913 is a lamp. The actual life of the lamp in this television can vary, based on the lamp itself, the air temperature around the TV while it is operating, and your viewing patterns. Warmer air or poor ventilation shortens the lamp life, as does turning the television on and off frequently.

Mitsubishi warrants the lamp for one (1) year or 2,000 hours of operation, whichever occurs first. However, it is likely that the lamp will last significantly longer than this. When the lamp is close to 3,000 hours of use, the TV will display a warning message for one minute. The purpose of this message is to advise you that the lamp may fail soon. This warning message will continue to be displayed every time the TV is turned on, until the lamp is replaced and the Lamp Status elapsed time is reset.

At any time, you can confirm the lamp's elapsed hours of use by selecting Lamp Status from the Advanced Menu.

When you power on the TV, the message "Did you change the lamp? Press ENT(er) for Yes, press CANCEL for No" will appear. Press ENT(er) to reset the Lamp Status elapsed time.

To order a new lamp, please call (800) 553-7278.

WARNING:
Do not remove the lamp immediately after turning off the television. You may get burned because of the lamp's high temperature.

Do not remove the lamp, except when replacing. Careless treatment can result in injury or fire.

Do not touch the lamp element directly. It may break and cause you to have injuries or burns.

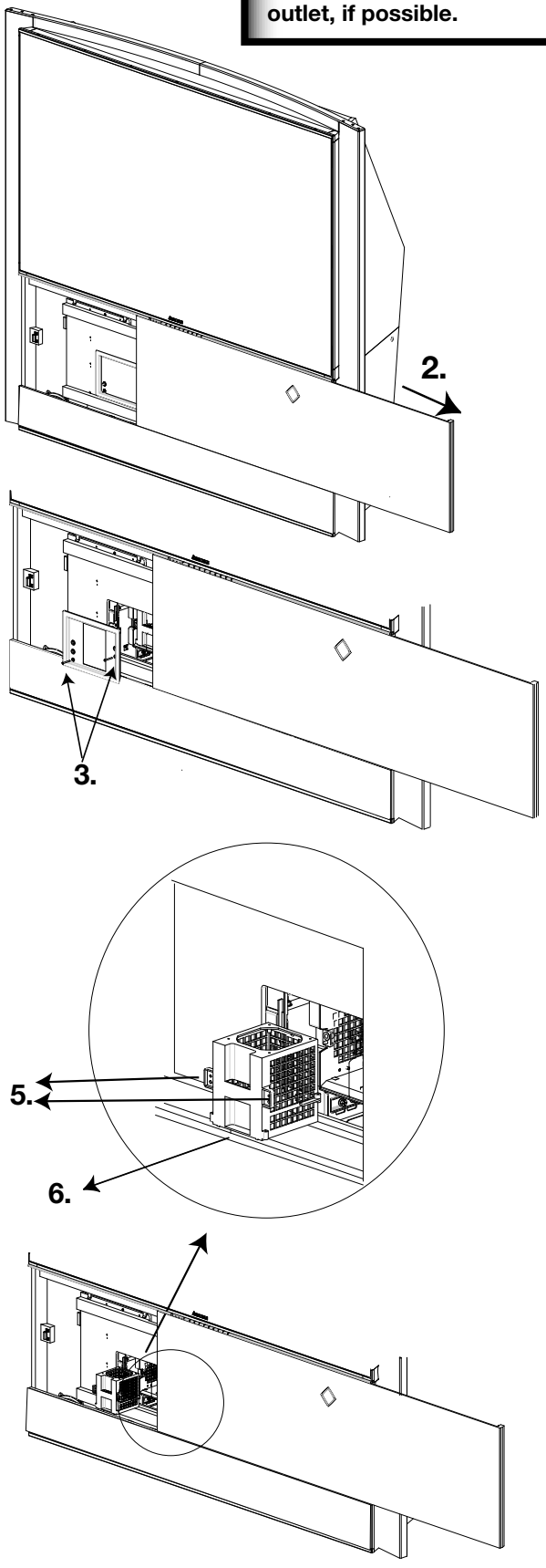
Be sure not to insert any metal or flammable object into the lamp cartridge opening, as it may cause fire or electrical shock. If any object is inserted into the opening unplug the AC cord of the TV and contact your dealer for service.

Install the lamp securely. Failure to do so may cause a fire.

The lamp in this product contains mercury. Disposal of mercury may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronic Industries Alliance: www.eiae.org

Appendix B: Lamp Cartridge Replacement, continued

IMPORTANT
After powering off the TV, unplug the AC cord from the outlet, if possible.



Replacing the Lamp Cartridge

Whenever you replace the lamp cartridge also clean the filter.

1. Turn the television off and unplug the AC cord.
2. Carefully slide the glossy front panel to the right until it stops.
3. The lamp cartridge panel has a recessed plastic cover. Using a Phillips screwdriver, remove the three screws that hold this cover in place.
4. Remove the plastic cover and set aside with the screws.
5. After removing the cover, you will be able to see the lamp cartridge. Using a Phillips screwdriver, loosen the two screws on either side of the cartridge.
   NOTE: The two screws will not remove completely.
6. Gently grasp the center of the lamp cartridge and pull straight out, towards you.
7. Insert the new lamp cartridge securely into the TV. Do not touch the glass surface of the cartridge.
8. Tighten the screws on the lamp cartridge.
9. Replace the plastic cover and screws.
10. Carefully slide the glossy front panel to the left to close the panel.
11. Plug the power cord into the outlet and press POWER to turn on the TV.
12. When you turn on the TV's power, the message "Did you change the lamp? Press ENT(er) for Yes, press CANCEL for No" will appear. On the remote control, press ENT(er) to reset the Lamp Status elapsed time (appears on the Advanced Menu screen).

CAUTION: The glossy front panel fits very securely. Be careful not to pinch your fingers when sliding it.

Using The System Reset Button

If the TV doesn't respond to either the remote control or the front panel controls or will not power off, press the SYSTEM RESET button on the front panel with a pointed item such as the point of a ball point pen or end tip of a paperclip.

The TV will turn off and the green led will flash quickly for about one minute. When the green led stops flashing, you may turn on the TV again. The changes you made while the TV was most recently on, before you used the SYSTEM RESET button may lost, however, the changes you made previously are not lost. Only those changes since the last power On may be lost when the system reset button is pressed. All other settings are retained.

LICENSOR'S SUPPLIERS DO NOT MAKE OR PASS ON TO END USER OR ANY OTHER THIRD PARTY, ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY OR REPRESENTATION ON BEHALF OF SUCH SUPPLIERS, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, TITLE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited pay-per-view uses only unless otherwise authorized by Macrovision. Reverse engineering or dissasembly is prohibited.

MultiMediaCard™ is trademark of Infineon Technologies and licensed to the MultiMediaCard Association.

SmartMedia™ is a trademark of Toshiba Corp.

CompactFlash® and CF are trademarks of the CompactFlash Association.

MEMORY STICK™ is a trademark of Sony Corp.

Lifestyle® 28 is a trademark of the Bose Corporation.

XBox™ is a trademark of the Microsoft Corporation.

Playstation® 2 is a trademark of the Sony Corporation.

This product includes technology owned by Microsoft Corporation and cannot be used or distributed without a license from Microsoft Licensing, Inc.

Index

A

Antenna or Wall Outlet Cable for Digital Broadcasts, Connecting 22
Arc Assembly 12-13
A/V Surround Sound Receiver or Stereo System, Connecting 29

B

Back Panel 17-18

C

Cabinet Assembly 9-10
Cable Box Connecting 25
  and Analog VCR, Connecting 27
Cleaning and Service 39
Cleaning the Dust Filter 40
Computer with a PC Monitor Output, Connecting 36
Connecting
  Analog VCR 26
  Analog VCR to a Cable Box 27
  Antenna or Wall Outlet Cable for Digital Broadcasts 22
  Audio/Video Surround Sound Receiver or Stereo System 29
  Cable Box 25
  Computer with a PC Monitor Output 36
  DVD Player with Component Video 30
  External Devices & NetCommand® Setup 20
  External Digital TV (DTV or HDTV) Receiver 32
  External Digital TV (DTV or HDTV) Receiver with Component Video Connection 33
  External Digital TV (DTV or HDTV) Receiver with RGB, HV Video Connections 34
  Helpful Hints 38
  IR Emitter NetCommand® or IR Repeater 37
  MonitorLink™ with MonitorLink Control or DVI-HD 35
  Satellite Receiver with S-Video 31
  Separate UHF and VHF Antennas for Analog Broadcasts 23
  Single Analog Antenna or Wall Outlet Cable 24

D

Diamond Shield™ Installation and Removal 11
DVD Player with Component Video, Connecting 30

E

External Devices & NetCommand® Setup 20
  External Digital TV (DTV or HDTV) , Connecting
    Receiver 32
    Receiver with Component Video Connection 33
    Receiver with RGB, HV Video Connections 34

F

Front Control Panel
  Buttons 15
  Memory Card 16

H

Helpful Hints, Connecting 38

I

Important Safeguards 4
IR,
  Emitter NetCommand® 37
  Repeater 37

L

Lamp Cartridge Replacement 41-42

M

MonitorLink™ with MonitorLink Control or DVI-HD 35

N

NetCommand®
  External Devices & NetCommand Setup 20
  IR Emitter 37
  Pre-Memorized Devices 21

S

Satellite Receiver with S-Video, Connecting 31
Separate UHF and VHF Antennas for Analog Broadcasts, Connecting 23
Single Analog Antenna or Wall Outlet Cable, Connecting 24
Special Features 14
System Reset Button 43

T

TV's Accessories 8
TV Delivery and Installation,
  Arc Assembly 12-13
  Cabinet Assembly 9-10
  Diamond Shield™ Installation and Removal 11

V

VCR, Connecting Analog 26, 27
Warranties

W

Warranties
  Projection Television 45
  Software 46

MITSUBISHI LCoS PROJECTION TELEVISION LIMITED WARRANTY

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC. ("MDEA") warrants to the original purchaser of this television that if purchased from an authorized MITSUBISHI Audio/Video Dealer, should it prove defective by reason of improper workmanship and/or material:

a. Parts. The diffusion (i.e. front picture) screen and/or the Diamond Shield™ is warranted against defects in materials and workmanship for a period of 30 days. The UHP lamp is warranted for a period of one year from the date of purchase at retail or 2000 hours of use, whichever condition occurs first. All other parts (except any software incorporated into this television) are warranted for a period of one year from the date of the original purchase at retail. We will repair or replace, at our option, any defective part without charge for the part. Parts used for replacement may be replaced with those of like kind and quality and may be new or remanufactured. Parts used for replacement are warranted for the remainder of the original warranty period.

b. Embedded Software. MDEA warrants that all software incorporated into this television set (the "Embedded Software") will perform in accordance with the functional description of Embedded Software in all material respects, but MDEA does not warrant that the Embedded Software is error-free. MDEA also does not warrant that the Embedded Software will be compatible under IEEE 1394 AV/C and HAVi software standards with products produced by any other manufacturer. The warranty contained in this section shall continue for a period of one year. If, after prompt notice within the warranty period, MDEA determines that the Embedded Software has failed to perform in accordance with such functional description in all material respects and if such failure is not due to accident, misuse, modification or misapplication of the Embedded Software, then MDEA shall modify or replace the nonconforming Embedded Software at no charge to you, which at MDEA's sole discretion may be fulfilled by means of modification or replacement software contained on a replacement memory card for Customer installation. The foregoing shall be MDEA's sole obligation to you under this limited warranty. All rights under this limited warranty on the Embedded Software also subject to your compliance with the terms of the Software License Agreement applicable to this television, and this limited warranty on the Embedded Software shall be null and void if the Embedded Software is modified or changed in any manner except as specifically authorized by MDEA.

c. Labor. For 30 days after the original purchase at retail, we will repair or replace, at our option, the diffusion screen if it proves defective. For certain items that are designed to be replaced by the consumer, including (but not limited to) the Diamond Shield™ and/or some Embedded Software, the consumer is solely responsible for any replacement labor. The UHP lamp is consumer replaceable and labor for replacement is not covered under warranty, please refer to the Owner's Guide for replacement procedures. Air filter cleaning is normal consumer required maintenance and labor for this procedure is not covered under warranty, please refer to the Owner's Guide for air filter cleaning procedures. For all other parts, we will provide the labor for a warranty repair by an authorized MITSUBISHI service center without charge for one year from the original date of purchase at retail.

d. Notice. To obtain warranty service, you must notify an authorized MITSUBISHI service center of any defect within the applicable warranty time period.

e. This LCoS Projection Television uses a revolutionary technology, Liquid Crystal on Silicon, to create the screen image. This technology creates the image using small dots, or picture elements (pixels). Your LCoS Projection TV is manufactured to a high level of perfection, in fact, 99.99% perfect in the number of properly functioning pixels. As in other display technology, sometimes a pixel is continuously active, inactive or the incorrect color. Our standard is clear; the percentage of properly functioning pixels will be 99.99%.

1. TO OBTAIN WARRANTY SERVICE:

a. Contact your nearest authorized MITSUBISHI service center whose name and address can be obtained from your MITSUBISHI dealer or by writing or calling MDEA at the address and telephone number provided below.

b. Warranty service will be provided in your home or, if required, at an authorized service shop, provided that your television is located within the geographic territory customarily covered by an authorized MITSUBISHI service center. If not, you must either deliver your television to an authorized service location at your own expense, or pay for any travel and/or transportation costs the service center may charge to and from your home. Actual service labor will be provided without charge.

c. Proof of purchase date from an authorized MITSUBISHI dealer is required when requesting warranty service. Present your sales receipt or other document which establishes proof and date of purchase. THE RETURN OF THE OWNER REGISTRATION CARD IS NOT A CONDITION OF WARRANTY COVERAGE. However, please return the Owner Registration Card so that we can contact you should a question of safety arise which could affect you.

d. To obtain a replacement UHP lamp during the warranty period, please contact the MDEA Consumer Relations Department at (949) 830-8364. After the warranty period you may order the lamp directly from the MDEA Parts Department at (800) 553-7278.

2. THIS WARRANTY DOES NOT COVER:

a. Up to .01% pixel outages (small dot picture elements that are dark or incorrectly illuminated).

b. Damage to Diamond Shield, diffusion screen or Fresnel lens, screen frame, cosmetic damage or to any other product where such damage is caused by unauthorized modification, alteration, repairs to or service of the product by anyone other than an authorized MITSUBISHI service center; physical abuse to or misuse of the product (including any failure to carry out any maintenance as described in the Owner's Guide including air filter cleaning or any product damaged by excessive physical or electrical stress); any products that have had a serial number or any part thereof altered, defaced or removed; product use in any manner contrary to the Owner's Guide; freight damage; or any damage caused by acts of God or other factors beyond the reasonable control of MDEA, such as power surge damage caused by electrical system or lightning. This warranty also excludes service calls where no defect in the product covered under this warranty is found, service calls related to unsatisfactory audio or visual reception or signal unless caused a defect in the product that is covered under this warranty, all costs, expenses or any other damages arising from product installation, or set-ups, any adjustments of user controls (including convergence, contrast, brightness, color, tint, fine tuning, sharpness), other adjustment necessary to prepare the unit for display or use, connection with any external audio receiver, antenna, cable or satellite systems, or service of products purchased or serviced outside the U.S.A. Please consult the operating instructions contained in the Owner's Guide furnished with the product for information regarding user controls.

3. ANY EXPRESS WARRANTY NOT PROVIDED HEREIN, AND ANY REMEDY WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION OR OPERATION OF LAW, IS HEREBY EXCLUDED AND DISCLAIMED. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY LIMITED TO A TERM OF ONE YEAR.

4. UNDER NO CIRCUMSTANCES SHALL MDEA BE LIABLE TO PURCHASER OR ANY OTHER PERSON FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER ARISING OUT OF BREACH OF WARRANTY, BREACH OF CONTRACT, OR OTHERWISE.

5. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental, special, or consequential damages, so the above limitations or exclusions may not apply to you.

6. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

7. BEFORE REQUESTING SERVICE, please review the instruction booklet to insure proper installation and correct customer control adjustment. If the problem persists, contact your nearest MITSUBISHI Dealer for name(s) of authorized MITSUBISHI Service Center(s). If you are unable to obtain this information, please call 800-332-2119, or write us at the address below.

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC.
9351 Jeronimo Road Irvine, CA 92618-1904

MITSUBISHI

MITSUBISHI TV SOFTWARE

END-USER LICENSE AGREEMENT FOR EMBEDDED SOFTWARE

IMPORTANT – READ CAREFULLY: This License Agreement is a legal agreement between you (either an individual or an entity) and Mitsubishi Digital Electronics America, Inc. (MDEA) for all software preinstalled and/or provided along with this television ("Software"). By utilizing this television and Software, you agree to be bound by the terms of this License Agreement.

The Software is protected by United States copyright laws and international treaty provisions, as well as other intellectual property laws and treaties. The Software is licensed, not sold.

1. **LICENSE GRANT.** MDEA grants you a non-exclusive, non-transferable, limited right and license to use one copy of the Software only with the Mitsubishi television model that included this owner's guide and owned by you.

2. **RIGHTS AND LIMITATIONS.**

Software Not for Resale. You may not resell or otherwise transfer for value the Software, except in conjunction with a sale of the TV that Software has been preinstalled.

Prohibition on Reverse Engineering, Decompilation and Disassembly. The Software contains trade secrets or other proprietary material in its human perceivable form and to protect them, you may not reverse engineer, decompile, or disassemble, or otherwise reduce the Software to any human perceivable form, except to the extent that the foregoing restriction is expressly prohibited by applicable law.

Separation of Components. The Software is licensed as a single product. Its component parts may not be separated for use on more than one TV.

No Rental. You may not rent, lease, lend, or sublicense the Software.

Trademarks. This License Agreement does not grant you any rights to any trademarks of MDEA.

3. **VIOLATIONS.** You understand that any use, copying or transfer of the Software, except as permitted pursuant to this License, may subject you to serious criminal and civil penalties including damages and an award to MDEA of attorneys' fees in connection with any violation of this License. You further understand that you may be held legally responsible for any copyright infringement or other violation of intellectual property rights that is caused, encouraged, or induced by your failure to abide by the terms of the License. This license is effective until terminated, and will terminate immediately without notice from MDEA or judicial resolution if you fail to comply with any provision of this License.

4. **COPYRIGHT.** All title and intellectual property rights in and to the Software (including but not limited to any images, photographs, animations, video, audio, music, text, and "applets" incorporated into the Software), and any accompanying printed materials are owned by or licensed to MDEA. All title and intellectual property rights in and to the content which may be accessed through use of the Software is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This License Agreement grants you no rights to use such content, except that you own the media on which the Software is recorded, but MDEA and its licensors retain ownership of the Software itself. All rights not expressly granted are reserved by MDEA.

5. **EXPORT RESTRICTIONS.** MDEA is licensing the Software for use within the United States. You agree that you will not export or re-export the Software. You specifically agree not to export or re-export the Software: (i) to any country to which the U.S. has embargoed or restricted the export of goods or services, which currently include, but are not necessarily limited to Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria, or to any national of any such country, wherever located, who intends to transmit or transport the Software back to such country; (ii) to any person or entity who you know or have reason to know will utilize the Software in the design, development, or production of nuclear, chemical, or biological weapons; or (iii) to any person or entity who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government. You warrant and represent that neither the BXA nor any other U.S. federal agency has suspended, revoked, or denied your export privileges.

6. **DISCLAIMER OF WARRANTY. EXCEPT AS OTHERWISE PROVIDED IN THIS LICENSE OR IN THE LIMITED WARRANTY APPLICABLE TO THE TV, MDEA MAKES NO OTHER WARRANTIES OF ANY KIND WHATSOEVER REGARDING THE SOFTWARE AND HEREBY EXPRESSLY DISCLAIMS ALL WARRANTIES OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO THE SOFTWARE. ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXPRESSLY DISCLAIMED BY MDEA. IN NO EVENT SHALL MDEA BE LIABLE TO YOU OR ANY THIRD PARTIES, IN CONTRACT, IN TORT OR OTHERWISE, FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR NATURE. BECAUSE SOME JURISDITIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF IMPLIED WARRANTIES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.**

7. **LIMITATION OF LIABILITY. MDEA SHALL NOT, UNDER ANY CIRCUMSTANCES BE LIABLE TO YOU OR ANY THIRD PARTIES FOR ANY DAMAGES OF ANY NATURE, WHETHER INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY CLAIMS FOR LOST PROFITS, LOSS OF GOOD WILL OR EXPENDITURES MADE OR COMMITTED FOR IN RELIANCE ON THE CONTINUATION OF THIS LICENSE. YOU AGREE THAT NEITHER MDEA'S BREACH OF THIS LICENSE NOR ITS FAILURE TO REPAIR A DEFECT, ERROR OR BUG SHALL CONSTITUTE A FAILURE OF THE ESSENTIAL PURPOSE OF THIS LICENSE. BECAUSE SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTIAL DAMAGES, THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. MDEA's liability to you for direct damages for any cause whatsoever and regardless of the form of the action, will be limited to the money paid by you for the TV (based on fair market value of the TV) that caused the damages.**

8. GENERAL. This License Agreement will be governed by the laws of the State of California.

MITSUBISHI
THE BIG SCREEN COMPANY®
Digital

If you have questions regarding your television, call Consumer Relations at (800) 332-2119, or email us at MDEAservice@bigscreen.mea.com

To order replacement or additional remote controls or owner's guides call (800) 553-7278

or

visit our website at www.mitsubishi-tv.com

© 2003 Mitsubishi Digital Electronics America, Inc.
871D387A10

Designed and Printed in the U.S.A

MITSUBISHI
THE BIG SCREEN COMPANY™
Digital

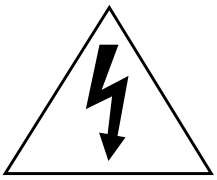
Owner's Guide Book 2

WL-82913

Operation

visit our website at

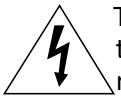
www.mitsubishi-tv.com



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: To assure continued FCC compliance, the user must use a shielded video interface cable with bonded ferrite cores at both ends, when using the PC or DVI input.

Changes or modifications not expressly approved by Mitsubishi could void the user’s authority to operate this equipment.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

NOTE TO CATV SYSTEM INSTALLER: THIS REMINDER IS PROVIDED TO CALL THE CATV SYSTEM INSTALLER’S ATTENTION TO ARTICLE 820-40 OF THE NEC THAT PROVIDES GUIDELINES FOR THE PROPER GROUNDING AND, IN PARTICULAR, SPECIFIES THAT THE CABLE GROUND SHALL BE CONNECTED TO THE GROUNDING SYSTEM OF THE BUILDING, AS CLOSE TO THE POINT OF CABLE ENTRY AS PRACTICAL.

Contents

Chapter 1: Basic Functions

Unpacking the TV's Accessories 8
Special Features 9
Front Control Panel Buttons 10
Front Control Panel Memory Card 11
Remote Control Functions: Overview 12
Remote Control Functions: Operation and Care 13

Chapter 2: NetCommand® Functions

Programming the Remote to Control NetCommand® A/V Products 16
3D Graphical ViewPoint Menu System 17
Using the Remote Control with NetCommand® Setup 18
NetCommand® Initial Setup Guide 19
NetCommand Editing Guide 20
NetCommand® Initial Setup 21
Edit NetCommand®, Adding an A/V Receiver 23
Edit NetCommand®, Adding Devices 26
Edit NetCommand®, Change or Delete Devices, Finish Screen 30

Chapter 3: Device Selection

Connecting IEEE 1394 Devices 32
Automatically Adding IEEE 1394 Devices 34
Device Selection Menu 36
PIP Device Selection Menu Displaying and Using the Transport Menu 37
Channel Selection, Sleep Timer, Audio and Video Buttons 38
NetCommand® Controlled Recordings 39

Chapter 4: TV Menu Screen Operations

Menu Screens Choices 42
Setup Menu 43
Antenna Menu 44
Time Menu 46
Captions Menu 48
V-Chip Lock Menu 50
A/V Settings Menu 53
A/V Settings Descriptions 54
Advanced Menu 56

Chapter 5: Special Features

NetCommand® Controlled Peer-to-Peer Connections 58
NetCommand Remote Control Buttons: Device Menu, Guide 59
Recording on a NetCommand Traditional VCR,
A/V Disc Search, Track List Screen 60
Memory Card Playback 61
PC Viewing 63
Device Menu with NetCommand® 64
Software Updates 66
Operation of PIP and POP 67
Display Formats 68
TV Display Formats 69
PC Display Formats 70
Appendix A: Bypassing the V-Chip Lock 71
Appendix B: Input Connection Compatibility 73
Appendix C: Remote Control Programming Codes 74
Appendix D: On-Screen Information Displays 78
Appendix E: NetCommand® Specialized Device Keys 79
Troubleshooting 80
Using the System Reset Button 84
Index 86
Warranties 89

IMPORTANT SAFEGUARDS

Please read the following safeguards for your TV and retain for future reference.Always follow all warnings and instructions marked on the television.

1. **Read, Retain and Follow All Instructions**
   Read all safety and operating instructions before operating the TV. Retain the safety and operating instructions for future reference. Follow all operating and use instructions.

2. **Heed Warnings**
   Adhere to all warnings on the appliance and in the operating instructions.

3. **Cleaning**
   Unplug the TV from the wall outlet before cleaning. Do not use liquid, abrasive, or aerosol cleaners. Cleaners can permanently damage the cabinet and screen. Use a lightly dampened cloth for cleaning.

4. **Attachments and Equipment**
   Never add any attachments and/or equipment without approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

5. **Water and Moisture**
   Do not use the TV where contact with or immersion in water is possible. Do not use near bath tubs, wash bowls, kitchen sinks, laundry tubs, swimming pools, etc.

6. **Accessories**

   Do not place the TV on an unstable cart, stand, tripod, or table. The TV may fall, causing serious injury to a child or adult and serious damage to the TV. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the TV. Any mounting of the TV should follow the manufacturer's instructions, and should use mounting accessories recommended by the manufacturer.

   An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. **Ventilation**
   Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the TV and to protect it from overheating. Do not block these openings or allow them to be obstructed by placing the TV on a bed, sofa, rug, or other similar surface. Nor should it be placed over a radiator or heat register. If the TV is to be placed in a rack or bookcase, ensure that there is adequate ventilation and that the manufacturer's instructions have been adhered to.

8. **Power Source**
   This TV should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your appliance dealer or local power company.

9. **Grounding or Polarization**
   This TV is equipped with a polarized alternating current line plug having one blade wider than the other. This plug will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

10. **Power-Cord Protection**
    Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the TV.

11. **Lightning**
    For added protection for this TV during a lightning storm, or when it is left unattended and unused for long period of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the TV due to lightning and power-line surges.

IMPORTANT SAFEGUARDS, cont'd.

12. Power Lines

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

13. Overloading

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

14. Object and Liquid Entry

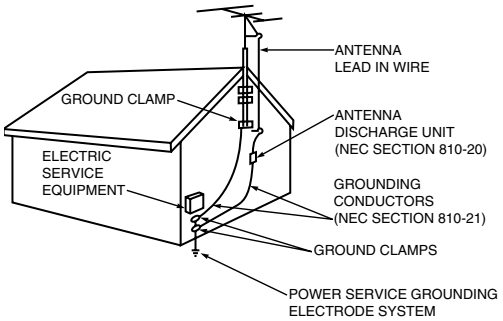
Never push objects of any kind into this TV through openings as they may touch dangerous voltage points or short-out parts that could result in fire or electric shock. Never spill liquid of any kind on or into the TV.

15. Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the TV, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges.

Section 810 of the National Electric Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

EXAMPLE OF ANTENNA GROUNDING


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC — NATIONAL ELECTRICAL CODE

16. Servicing

Do not attempt to service this TV yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17. Damage Requiring Service

Unplug the TV from the wall outlet and refer servicing to qualified service personnel under the following conditions:

(a) When the power-supply cord or plug is damaged.
(b) If liquid has been spilled, or objects have fallen into the TV.
(c) If the TV has been exposed to rain or water.
(d) If the TV does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the TV to its normal operation.
(e) If the TV has been dropped or the cabinet has been damaged.
(f) When the TV exhibits a distinct change in performance - this indicates a need for service.

18. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

19. Safety Check

Upon completion of any service or repair to the TV, ask the service technician to perform safety checks to determine that the TV is in safe operating condition.

20. Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

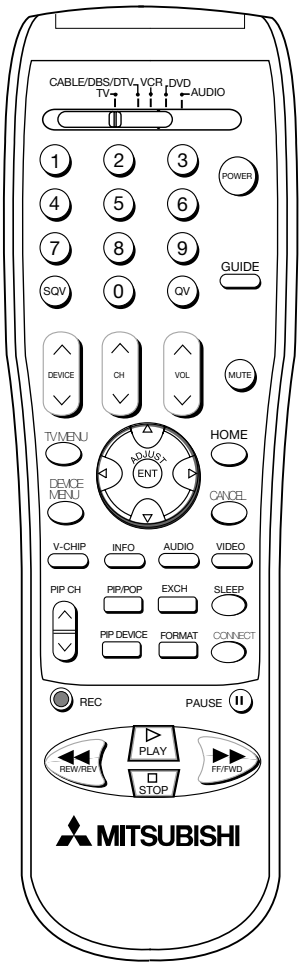
Chapter . . . 1

Basic Functions

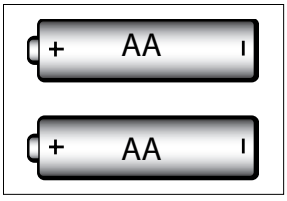
Unpacking the TV's Accessories 8
Special Features 9
Front Control Panel Buttons 10
Front Control Panel Memory Card 11
Remote Control Functions: Overview 12
Remote Control Functions: Operation and Care 13

Unpacking the TV's Accessories

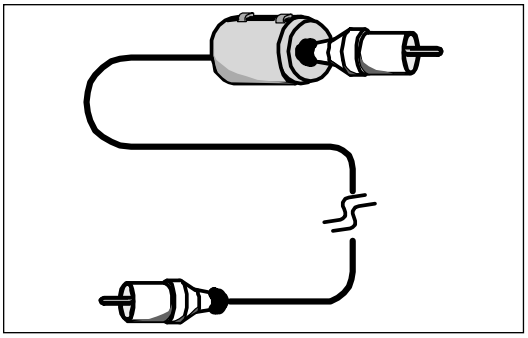
Please take a moment to review the following list of items to ensure that you have received everything including:



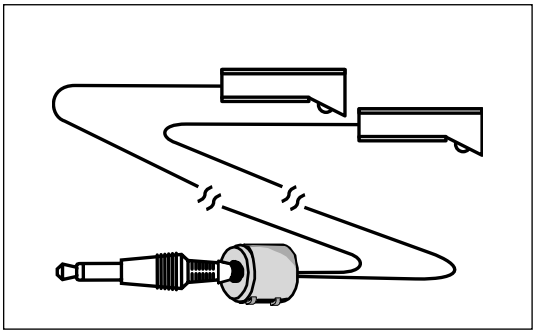
1. Remote Control



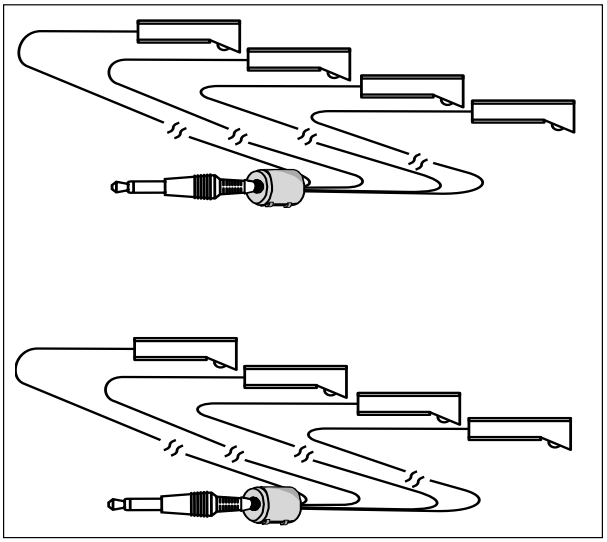
2. (Two) AA Batteries



3. (One) Digital Audio Cable



4. (One) Double IR Emitter Cable



5. (Two) Quadruple IR Emitter Cables

6. Product Registration Card (not pictured)

7. Owner's Guides (Book 1 and Book 2, not pictured)

8. Quick Reference Card (not pictured)

Special Features

Your new High Definition bigscreen television has many special features that make it the perfect center of your home entertainment system. These special features include:

High Definition 3-chip LCoS Display System

Your Mitsubishi bigscreen HDTV uses the latest in display technology -- Liquid Crystal on Silicon or LCoS. This system uses three LCoS chips (one chip for each of the primary colors of red, green and blue), each with a 1920 x 1080 pixel pattern to create the image. This technology uses reflective panels instead of phosphors, providing a brilliant high definition image with no phosphor aging.

This TV is truly a high performance multimedia monitor uniquely capable of both stunning high definition video images and clear detailed high resolution PC images. Your TV is able to accept video signals in the standard video scanning rates of 480i, 480p, 720p and 1080i. It is also able to accept PC resolutions from VGA (640 x 480) through WXGA (1365 x 768). When using a compatible graphics card and controlling software, this TV is also able to accept custom PC resolutions of 720p (1280 x 720) and 1080p (1920 x 1080). The WL-82913 is currently the largest self-contained rear projection TV available.

Fully Integrated HDTV

Your Mitsubishi bigscreen TV can receive all approved terrestrial broadcast digital signals, non-scrambled digital cable signals, terrestrial analog signals and non-scrambled analog cable signals that use a standard offset carrier system. Further, your TV will display all High Definition signals as 1080p. True HDTV™ and all standard definition signals will also be displayed as 1080p.

NetCommand® Home Network Control System

Your Mitsubishi bigscreen HDTV offers a new level of networking to combine selected older products with new and future digital products. NetCommand supports IEEE 1394 connections, HAVi (Home Audio Video Interoperability) Control system, Audio Video Control system (AV/C), 5C copy protection and IR control of selected older products such as VCRs, DVD players, cable boxes or satellite receivers. NetCommand includes the ability to learn remote control signals directly from many remote controls, allowing you to customize the NetCommand system in a way that works best for your viewing.

Wide Screen Picture Format

Enjoy a full theatrical experience in the comfort of your home. View pictures as film directors intended them. Both digital television broadcasts and DVDs support the widescreen format well-suited for your new TV.

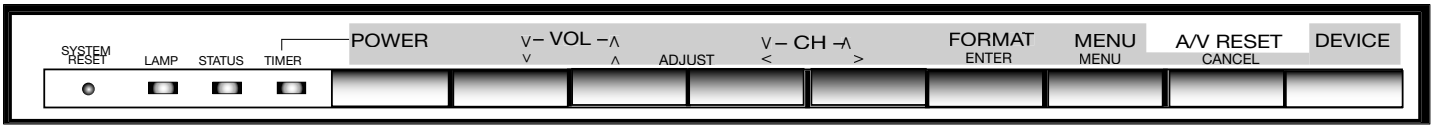
PIP/POP Viewing Option

Using Picture-in-Picture and Picture-outside-Picture will give you exciting options for viewing your favorite programs.

V-Chip Technology

Your Mitsubishi bigscreen will allow you to restrict viewing of programming by general content, category contents, or even by time.

Front Control Panel Buttons



The buttons on the Front Control Panel highlighted in gray are duplicated on the remote control. The top row of labels show the control functions when there are no TV menus displayed on the screen. The bottom row of labels show the control functions when the TV menus are displayed on the screen or when a special function has been activated. See Remote Control Overview, page 12, for further details on the functions of these buttons.

System Reset

If the TV will not respond to either the remote control or the front panel controls and will not power off, press the SYSTEM RESET button with a pointed item like the end point of a paperclip. The TV will turn Off and the TIMER light will flash quickly for about one minute. When the TIMER light stops flashing, you may turn on the TV again. The changes you made while the TV was On before you used the SYSTEM RESET button may be lost, however, the changes you made previously are not lost.

Indicators

Please refer to the table below for conditions when the indicator lights will display.

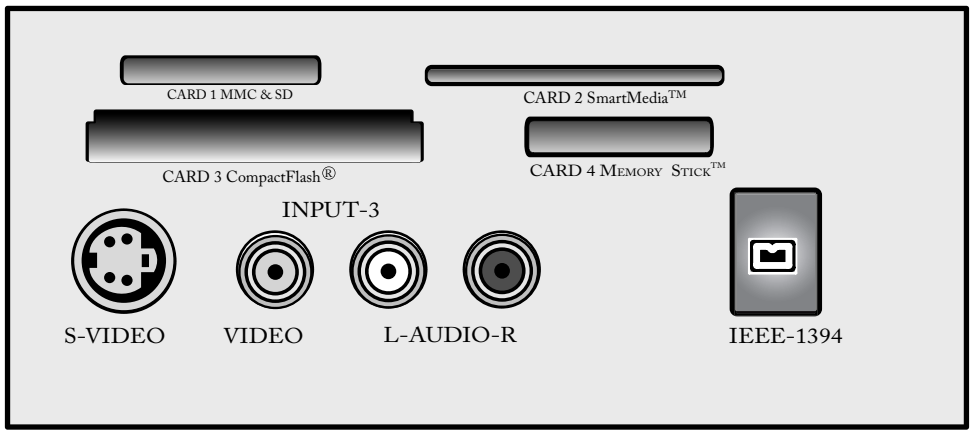
COLOR	LAMP	STATUS	TIMER/POWER
None (off)	Power off	Power off	Power off
Green (steady light)	n/a	n/a	Power on
Green (fast blinking light)	n/a	n/a	Starting up*
Green (blinking light)	n/a	n/a	TV Timer is set
Yellow (steady light)	Lamp life end warning. A new lamp should be purchased. See Book 1, Appendix B.	Operating temperature is too high. The dust filter may be dirty See Book 1, Appendix A. or The room temperature too hot. Turn off TV until room is cooler.	n/a
Yellow (blinking light)	Lamp cover door is open or Lamp cartridge not secure. See Book 1, Appendix B.	Power off, lamp cartridge is cooling. Power cannot be turned on until flashing stops.	n/a
Red	Lamp may have failed, replacement may be required. See Book 1, Appendix B.	Service required. Turn off TV and call your dealer or a Mitsubishi Authorized Service Center. See www.mitsubishi.com or call 1-800-332-2119.	n/a

*Each time the TV is plugged into the wall electrical outlet, when power is restored after a power failure, after powering On from the Low Energy mode, or using the SYTEM RESET button this light will display for about one (1) minute.

A/V Reset

Press this button to reset all Audio and Video memories to the factory default settings.

Front Control Panel Memory Card



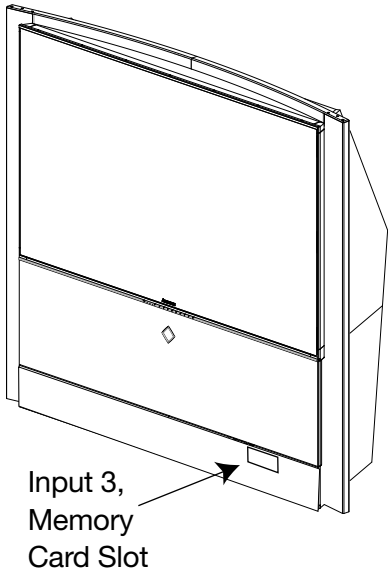
Input 3

This input can be used for convenient connection of a camcorder or other video device to the TV. Please note that if you connect to the S-VIDEO terminal, the VIDEO terminal is deactivated. The VIDEO terminal is active when there is no S-Video connection.

Memory Card Slots and IEEE 1394 input/output

There are four card slots in the front of the TV that allow the display of JPEG pictures from many digital cameras, MP3 or WMA audio files recorded from computers or other digital recording devices. The card slots are designed for specific types of cards and other cards or objects should not be inserted into the slots as this may damage the TV. CARD 1 slot is compatible with both MultiMediaCard™ (MMC) and Secure Digital (SD) cards. CARD 2 slot is compatible with SmartMedia™ cards. CARD 3 slot is compatible with CompactFlash® cards and CARD 4 is compatible with Memory Stick™ cards. See Memory Card (slideshow, playlist) Setup in this book for details about JPEG, MP3 and WMA file types that are compatible with the TV.

The IEEE 1394 input/output allows for temporary connection of IEEE 1394 devices such as some camcorders, to the front of the TV. This connection works the same way as rear IEEE 1394 connections, please refer to the NetCommand® chapter in this book



Remote Control Functions: Overview

Overview

Figure 1, following page

1. **Slide Switch**: Select A/V product to be controlled by the remote control. Move to TV for NetCommand® device control.

2. **Numbers**: Individually select channels or enter information into menus.

3. **POWER**: Turns power on and off for TV and other A/V products.

4. **SQV (SuperQuickView™)**: Scan through memorized lists of favorite channels.

5. **QV (QuickView™)**: Switch between the current channel and last channel viewed.

6. **GUIDE**: Display program guide for satellite receiver, some cable boxes or DVD Disc menu. Display Digital Channel Guide for Ant-DTV and other digital devices. Display Track List for A/V Disc.

7. **DEVICE**: Displays the Device Selection menu to select the device to view (Ant-A, Ant-B, Ant-DTV, devices connected to the TV's inputs or IEEE 1394 devices).

8. **CHANNEL**: Scroll up or down through memorized channels.

9. **VOLUME**: Change sound level. Volume on-screen displays are separate for analog devices and digital devices.

10. **MUTE**: Turn sound on or off.

11. **TV MENU**: Display ViewPoint® on-screen menu system.

12. **HOME**: Exit TV on-screen menus and return to TV viewing.

13. **ENT (ENTer):** Select a channel number or menu item.

14. **ADJUST**: Use ◀, ▶, ▲ and ▼ to navigate menus, change settings, and move the PIP on-screen location. Also operates many NetCommand® functions.

15. **DEVICE MENU**: Display menus for devices connected to TV.

16. **CANCEL**: Clear SQV and some menu entries. Add separator between major and sub channel for Ant-DTV digital channels or cancel recordings.

17. **V-CHIP**: Turns On or Off the V-Chip Lock.

18. **INFO**: Display on-screen summary of the current device used and any broadcast information available (including current V-Chip information). See Appendix H for details.

19. **AUDIO**: Select the audio settings.

20. **VIDEO**: Select the video settings.

21. **PIP CH**: Scroll up or down through memorized channels for PIP or POP.

22. **PIP/POP**: Cycle through PIP and POP display choices.

23. **EXCH**: Exchange PIP or POP and main TV picture.

24. **SLEEP**: Set the TV to turn off within 2 hours. See ***Sleep Timer*** for setup instructions.

25. **PIP DEVICE**: Displays PIP Selection menu to select the PIP or POP image source device.

26. **FORMAT**: Change the shape and size of the main TV picture.

27. **CONNECT**: Initiate IEEE 1394 peer-to-peer connections.

28. **REC**: Record with a VCR, setup recordings for DVCR or IEEE 1394 devices.

29. **PAUSE**: Pause a VCR, DVD, A/V Disc or Memory card files. Freeze the PIP or POP image.

30. **REW/REV**: Rewind or reverse search with a VCR, reverse scan with a DVD, A/V Disc or Memory card files.

Remote Control Functions: Operation and Care

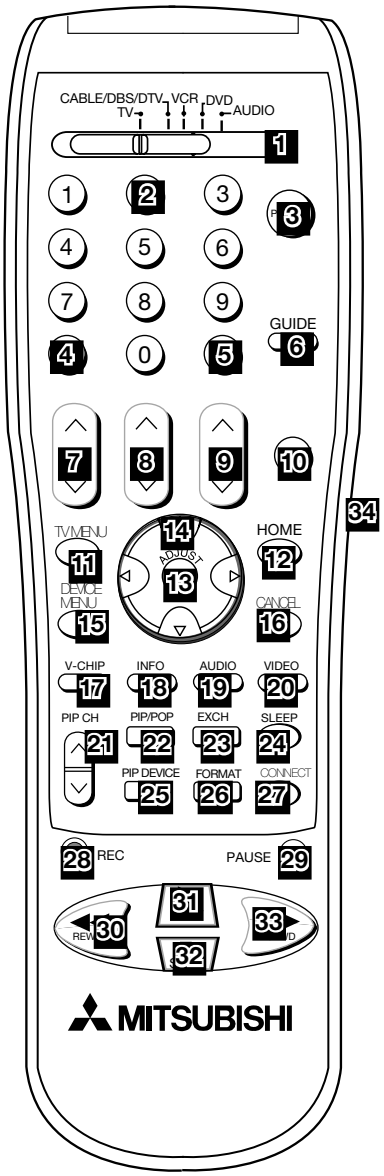


Figure 1. Remote Control Overview

Operation

Figure 2

Installing the Batteries:

1. Remove the remote control's back cover by gently pressing the ribbed tab in the direction of the arrow and sliding off the cover.

2. Load the batteries, making sure the polarities (+) and (-) are correct. For easier installation, insert the negative (-) side first.

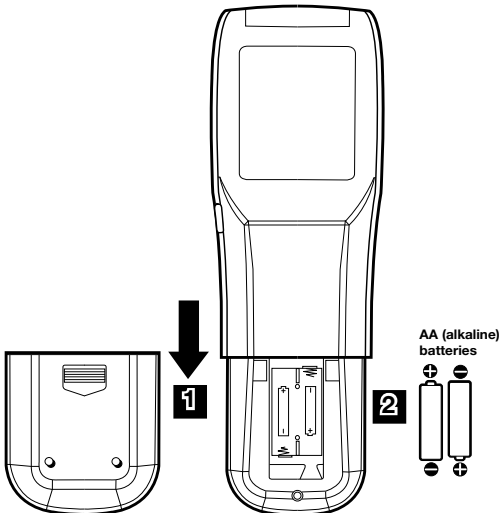


Figure 2. Operation: Installing the Batteries

Care

For Best Results from the Remote Control:

- Be within 20 feet of the equipment.
- Do not press two or more buttons at the same time unless instructed.
- Do not allow unit to get wet or become heated.
- Avoid dropping on hard surfaces.
- Do not use harsh chemicals to clean. Use only a soft, lightly moistened cloth.
- Do not mix new and old batteries.
- Do not heat, take apart or throw batteries into fire.
- Use only AA alkaline batteries.

Chapter . . . 2

NetCommand® Functions

Programming the Remote to Control NetCommand® A/V Products 16
3D Graphical ViewPoint Menu System 17
Using the Remote Control with NetCommand® Setup 18
NetCommand® Initial Setup Guide 19
NetCommand Editing Guide 20
NetCommand® Initial Setup 21
Edit NetCommand®, Adding an A/V Receiver 23
Edit NetCommand®, Adding Devices 26
Edit NetCommand®, Change or Delete Devices, Finish Screen 30

Programming the Remote to Control NetCommand® A/V Products

To Program the Remote to Control NetCommand A/V Products

Figure 3
(See NetCommand Supported Devices, for the list of A/V products supported by the NetCommand System.)

1. Move the slide switch at the top of the remote to the TV layer.

2. Press and hold the POWER button on the remote control.

3. Enter the three digit code of 935, and then release the POWER button on the remote control.

4. The remote control is now programmed to send NetCommand signals to the TV so the TV can control the IEEE 1394 devices and NetCommand supported or learned IR devices, while the slide switch is in the TV position.

   Note: To return the remote to the original configuration, repeat Steps 1 and 2. At Step 3, enter the code 000 and release the POWER button on the remote control.

NetCommand	CODE to ENTER
TV Control and NetCommand Devices:	**935**

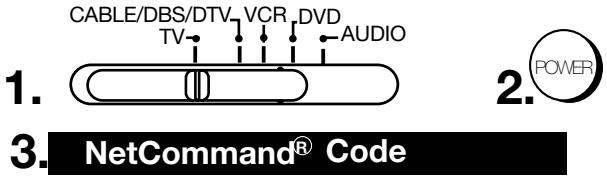


Figure 3. Programming the TV remote to control your NetCommand A/V devices.

The NetCommand Learning feature is able to learn the remote control signals of most Audio Video devices. However, there will be some signal sets that NetCommand cannot learn or you may choose to not use NetCommand. For these conditions you will find that the remote control has many brands of products already in the TV's remote control memory. See Appendix C for instructions on programming the remote control to operate these products independently of NetCommand. These additional remote control features are enabled by moving the slide switch at the top of the remote to other device positions.

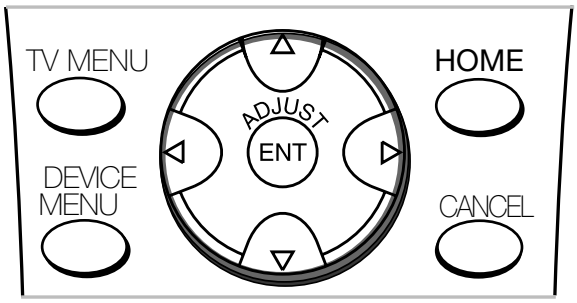
3D Graphical ViewPoint® Menu System

Your TV has a special control system called NetCommand® that will control IEEE 1394 devices, selected IR devices and learn IR code to control other devices. For details on operating these control features, see the next page.

Your TV also has Mitsubishi's exclusive 3D Graphical ViewPoint® on-screen operating system, which provides on-screen information for menu choices and changes, using the TV's remote control.

Main Menu: This screen will always be the first screen that appears when you press the remote's TV MENU button

The following buttons on your remote control help you navigate within the ViewPoint® system :



ViewPoint® *navigation buttons*

A picture (icon) will be highlighted when selected with the ADJUST arrows. When selected, the appropriate menu appears. You may then make changes within the menu or access sub-menus, if available.

You can also access sub-menus from a button. Sometimes, when you select a button an automatic function begins.

The ViewPoint® system includes the following special features:

- The currently selected icon or button is highlighted with a yellow outline; the text color is yellow.
- On-screen instructions, shown in the message line at the bottom of the menu, provide feature selection and adjustment information.
- Some on-screen menu options must be set before other options are available.

1. ADJUST ◀ or ▶ to select the menu item you want to change.
2. ADJUST ▲ or ▼ to change the settings.
3. ENT(er) to enter into a menu, start an automatic function or select a checkbox.
4. CANCEL to clear a setting or stop an automatic function.
5. TV MENU to display the main menu or move back one menu screen at a time.
6. HOME to exit all menus and return to TV viewing.

Press ADJUST ▲ or ▼ to change text boxes. Some text boxes have preset labels. Other boxes allow you to select letters, numbers or characters to customize names.

When customizing names, press ADJUST ▲ or ▼ buttons to select letters, numbers or characters. Use the ENT(er) button to move to the next character position. Use CANCEL to erase letters, numbers or characters and move one space backward.

Using the Remote Control with NetCommand® Setup

In order to use the NetCommand feature, you need to provide some detailed information during the setup of your Mitsubishi TV. You must define the Manufacturer of the devices that are connected to the television or learn the IR code remote control signals for the device connected. For each device, the input to the TV and A/V receiver and the names for the device are pre-set during Initial NetCommand setup. You may change those inputs or names using the Edit NetCommand screens.

On your remote control, the ADJUST ◀ and ▶ buttons allow you to navigate left and right to different selections on the screen. The ADJUST ▲ and ▼ buttons allow you to:

- Change the selected radio button
- Change selection in text boxes
- Navigate up and down on the screen

The **ENT**(er) button allows you to:

- Confirm the selected character when naming a device
- Add or delete check marks in check boxes
- Select on-screen buttons to change screens.

Textbox

Press ADJUST ▲ or ▼ to make a selection.

Checkbox

Checkmarks indicate the item or input is Added or turned On. Press ENT(er) when the Checkbox is highlighted to add or delete a checkmark. When viewing the Review screen, a Checkbox reflects which devices are turned On or Off, or connected to the TV.

Radio Buttons

The setting changes when a radio button is selected

Control Buttons

Much like the software on your computer, you will use graphic buttons to navigate through the NetCommand Setup screen. Highlight the button and press ENT(er) to select the function.

<Back Button

Use the <Back button to navigate back to the previous screen.

Next> Button

Use the Next> button to navigate forward to the next screen.

Cancel Button

The Cancel button will cancel out any changes you are currently making without saving them into memory. When you select Cancel, NetCommand will prompt you to confirm that you want to cancel the changes you are currently making. If you select Cancel during Initial Setup, You can setup NetCommand later by selecting the Initial option at the Setup menu.

NetCommand® Initial Setup Guide

The easiest way to setup NetCommand is to follow the on-screen directions. For reference, below is a list of the screens that you will use during the initial setup. You will find detailed information regarding each screen in the pages following this Guide.

Initial

Initial NetCommand Setup:

When you first turn on your TV. You may Cancel at any screen.

↓

Language Screen

Page 21 Figure 1

↓

Information Screen

Page 21 Figure 2

↓

Device Setup Screen (used when manufacturer is known). If the manufacturer is unknown, select Other, then see Edit NetCommand to add or change the device.

Page 21 Figure 3

↓

Review Screen

Page 22 Figure 4

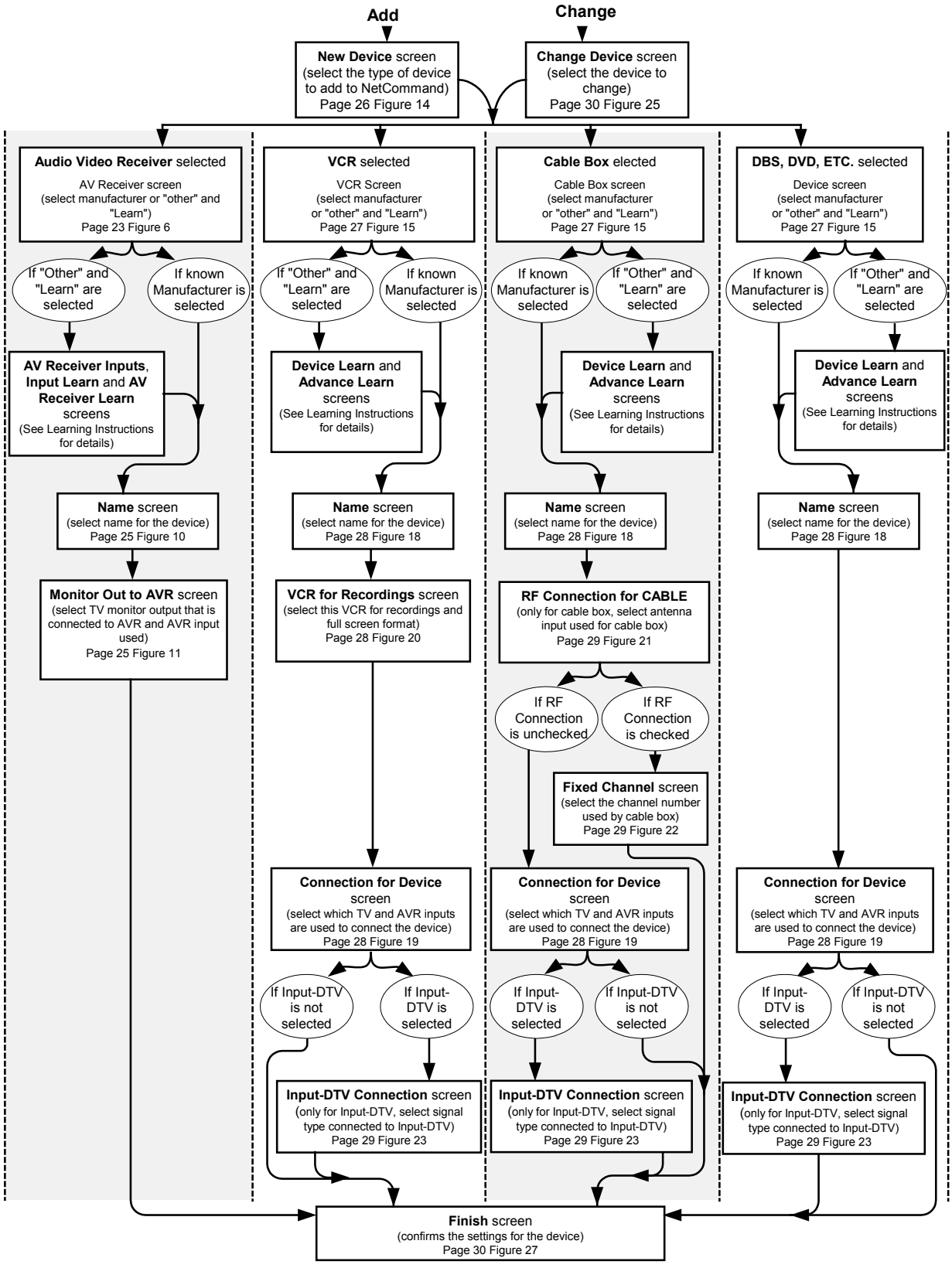
↓

Finish Screen

Page 22 Figure 5

NetCommand® Editing Guide

After initial setup, the screens listed below may display, depending on your selection. The easiest way to setup NetCommand is to follow the on-screen directions. You will find detailed information regarding each screen in the pages following this Guide.


Add
Change
New Device screen (select the type of device to add to NetCommand) Page 26 Figure 14
Change Device screen (select the device to change) Page 30 Figure 25
Audio Video Receiver selected
AV Receiver screen (select manufacturer or "other" and "Learn") Page 23 Figure 6
VCR selected
VCR Screen (select manufacturer or "other" and "Learn") Page 27 Figure 15
Cable Box elected
Cable Box screen (select manufacturer or "other" and "Learn") Page 27 Figure 15
DBS, DVD, ETC. selected
Device screen (select manufacturer or "other" and "Learn") Page 27 Figure 15
If "Other" and "Learn" are selected
If known Manufacturer is selected
AV Receiver Inputs, Input Learn and AV Receiver Learn screens (See Learning Instructions for details)
Device Learn and Advance Learn screens (See Learning Instructions for details)
Name screen (select name for the device) Page 25 Figure 10
Name screen (select name for the device) Page 28 Figure 18
Monitor Out to AVR screen (select TV monitor output that is connected to AVR and AVR input used) Page 25 Figure 11
VCR for Recordings screen (select this VCR for recordings and full screen format) Page 28 Figure 20
RF Connection for CABLE (only for cable box, select antenna input used for cable box) Page 29 Figure 21
If RF Connection is unchecked
If RF Connection is checked
Fixed Channel screen (select the channel number used by cable box) Page 29 Figure 22
Connection for Device screen (select which TV and AVR inputs are used to connect the device) Page 28 Figure 19
If Input-DTV is not selected
If Input-DTV is selected
Input-DTV Connection screen (only for Input-DTV, select signal type connected to Input-DTV) Page 29 Figure 23
Finish screen (confirms the settings for the device) Page 30 Figure 27

NetCommand® Initial Setup

When you first power On your new Mitsubishi TV, the initial setup screens appear. In order to use NetCommand, select these screens after you have connected the compatible equipment to the TV. Most IR remote control signal formats can be learned by NetCommand.

Language Screen

Figure 1

When you first turn on your TV, the Welcome screen displays and asks you to select either English or Spanish as the language for the on-screen menus. The default language is English. To change Language later, use Setup in the Main Menu. Selecting **Cancel** at this screen will cause the default language (English) to appear.

Figure 1. Language screen

NetCommand (Information) Screen

Figure 2

The NetCommand (Information) Screen describes how to start or delay the initial NetCommand Setup. This screen displays automatically the first time you power On your new TV, after the Welcome screen.

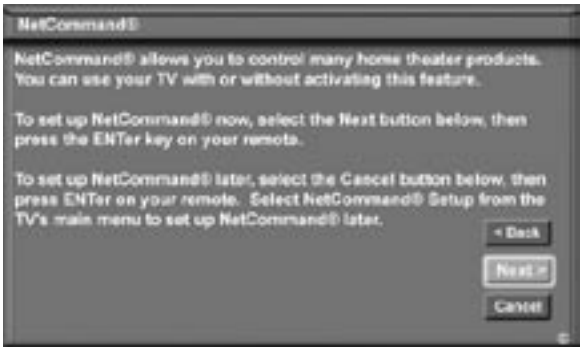

NetCommand®
NetCommand® allows you to control many home theater products. You can use your TV with or without activating this feature.
To set up NetCommand® now, select the Next button below, then press the ENTer key on your remote.
To set up NetCommand® later, select the Cancel button below, then press ENTer on your remote. Select NetCommand® Setup from the TV's main menu to set up NetCommand® later.
< Back
Next >
Cancel

Figure 2. Information screen

If the NetCommand Setup is cancelled before it's completed, you can restart the NetCommand setup by:

1. A press of TV MENU on the remote control to display the TV Main menu.

2. Select Setup. The available options for NetCommand are: Add, Review or Initial. Change and Delete will be grayed out.

3. Press ADJUST ▲, ▼, ◀ or ▶ to select Initial.

4. Press ENT(er). The Device Setup screen displays.

Device Setup Screen

Figure 3

If the devices connected to the TV are already in NetCommand memory, you can quickly select them at this screen. Press ADJUST ◀ or ▶ to move to each device type. Press ADJUST ▲ or ▼ to select the manufacturer of each device type. Select "Other" if the manufacturer is not listed. Later, you can use the Change setting in the Edit NetCommand option of the Setup menu to learn the remote control signals for this device. Select "None" for device types that are not connected.

If the manufacturer for your A/V Receiver is not listed, you cannot select "Other". Instead, select "None". You can either select Edit on the Finish screen or you can use the Add feature in the Edit NetCommand option of the Setup menu to learn the remote control signals for this device.

If you have a camcorder connected check the Camcorder box. NetCommand will not be able to control the camcorder, but will reserve the front input to use with the camcorder. When you are finished, select **Next>** and press ENT(er).

Figure 3. Device Setup screen

Note: If you selected "Other" for any of the device names, the following pages will explain how the TV "learns" the connected device.

IMPORTANT

You may use your TV without setting up NetCommand. You may also setup NetCommand at a later time by choosing Setup from the Main menu, then selecting initial from the Edit NetCommand setting.

NetCommand® Initial Setup, continued

Review Screen

Figure 4

After you have made your device choices the Review Screen will display. It is important to review the settings to ensure that they are correct. If necessary, you can use **<Back** to return to the Device Setup screen to make changes.

> **Note:** The Review screen lists the TV input and A/V Receiver input used with each device. You must correctly identify the inputs you used when you connected the devices. If you have not connected your devices, write down these inputs as a guide. If you cannot use these inputs, or if you would like to change the name of a device, use the instructions in Edit NetCommand to make necessary changes.
>
> **Note:** If you select **Next>** on the Review screen, all selections made are finalized.

On the Review Screen, adding or deleting check marks will turn the adjacent devices, memory cards or inputs On or Off.

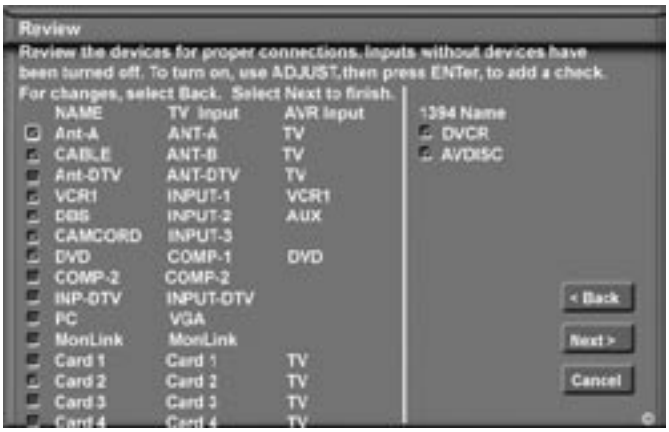


Figure 4. Review screen

Finish Screen

Figure 5

To finalize your selections and complete the NetCommand setup, select **Finish** from the Finish screen.

> **Note:** If you wish to change any of the pre-configured inputs or names for the devices, or add devices not in the pre-configured setup, select **Edit** to display the Edit NetCommand menu.

If your A/V Receiver was not listed, select **Edit** to add the A/V Receiver and assign all devices to new AVR inputs.

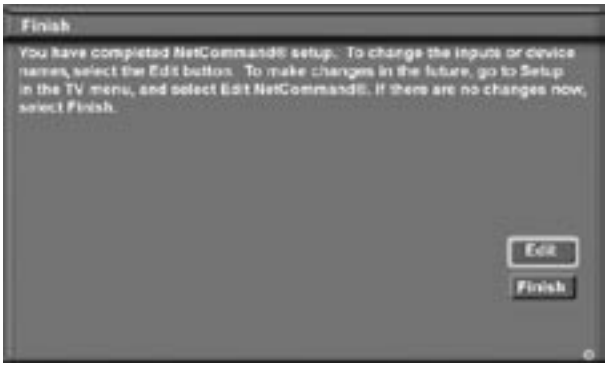

Finish
You have completed NetCommand® setup. To change the inputs or device names, select the Edit button. To make changes in the future, go to Setup in the TV menu, and select Edit NetCommand®. If there are no changes now, select Finish.
Edit
Finish

Figure 5. Finish screen

It is still necessary to memorize the available channels for Ant-A, Ant-B and Ant-DTV. You may do that by going to the TV Main menu and selecting Antenna. Instructions to memorize channels are found in the Antenna menu section.

Edit NetCommand®, Adding an A/V Receiver

A/V Receiver Screen

Figure 6

If you selected "None" as the manufacturer of the A/V Receiver connected to the TV during the initial NetCommand Setup, you may Add the A/V Receiver and have NetCommand learn it. The same screens are displayed when editing the A/V Receiver settings, using Edit NetCommand.

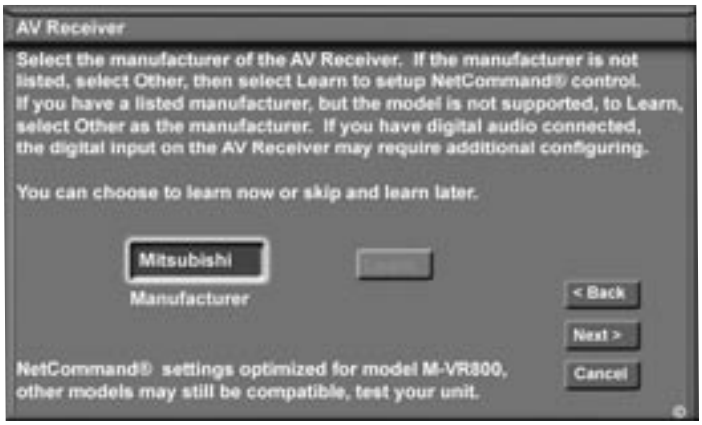

AV Receiver
Select the manufacturer of the AV Receiver. If the manufacturer is not listed, select Other, then select Learn to setup NetCommand® control.
If you have a listed manufacturer, but the model is not supported, to Learn, select Other as the manufacturer. If you have digital audio connected, the digital input on the AV Receiver may require additional configuring.
You can choose to learn now or skip and learn later.
Mitsubishi
Manufacturer
< Back
Next >
Cancel
NetCommand® settings optimized for model M-VR800, other models may still be compatible, test your unit.

Figure 6. A/V Receiver screen

Choose ONE of these options:

1. Select a recognized manufacturer. The model number optimized for NetCommand will display at the bottom of the screen. If a number follows the manufacturer's name, (example: Mitsubishi 1), this indicates additional models are optimized for that manufacturer. For many device types, non-listed models will operate in the same way as the listed models and you can still use the pre-loaded setting.

   After selecting **Next>**, the screens that follow are: the Name Screen (Figure 18), Monitor Out screen (Figure 11) and ending with the Finish screen (Figure 27).

2. Select "Other", then highlight "Learn" and press ENT(er). This will allow you to have NetCommand learn the remote control signals of this new device.

   After selecting "Learn" and pressing ENT(er), the screens that follow are: the A/V Receiver Inputs screen (Figure 7), A/V Receiver Input Learn screen (Figure 8), A/V Receiver Learn screen (Figure 9), Name screen (Figure 10), Monitor Out screen (Figure 11), ending with the Finish screen (Figure 12).

3. Select "Other", skip Learn and select **Next>**. This will allow the device to appear and will allow NetCommand to switch inputs to use this device. However, NetCommand will not be able to control this device. Later you may use the "Change" option in the Setup menu to learn the remote control signals.

   After selecting **Next>**, the screens that follow are: the Name Screen (Figure 10), Monitor Out screen (Figure 11), ending with the Finish screen (Figure 12).

A/V Receiver Inputs

Figure 7

This screen displays if "Other" is selected as the manufacturer, then "Learn" is chosen by highlighting it and pressing ENT(er). Depending on your A/V Receiver's capability, you may have devices connected to seven (7) A/V inputs. Press ADJUST ▲ or ▼ to select the number of inputs on your A/V receiver that have connected devices.

If the number of connected inputs changes, you will need to delete the A/V Receiver and add it again, as described above. This screen will not appear again after you press **Next>**.

AV Receiver Inputs
Select the number of inputs for the AV Receiver that will be learned. NetCommand assigns devices to the AV Receiver based on the number of inputs available.
7
Inputs
< Back
Next >
Cancel

Figure 7. A/V Receiver Input screen

Edit NetCommand®, Adding an A/V Receiver, continued

A/V Receiver Input Learn Screen

Figure 8

NetCommand can now learn the remote control signals used to select each input on the A/V Receiver.

1. Press ADJUST ◀ or ▶ on the TV remote to select the check box for each function to be learned.

2. Press ENT(er) and the name will begin to flash to confirm the ready-to-learn status.

3. Press the button on the A/V Receiver's remote control that corresponds to the selected function. A check mark will appear and the function name will stop flashing. This confirms the learned status.

4. To test the learned command, press ENT(er) on the TV remote. The A/V Receiver will perform the selected function. The A/V Receiver needs to be turned on and the IR emitters properly placed for the test to be successful (see page 37 in Book 1 for IR emitter placement).

5. To customize the input names, press ADJUST ▶ to move to the Input Name text box and then press ADJUST ▲ or ▼ and ENT(er) to select each letter of the name. These names will appear on the Review screen as the A/V Receiver's input names.

6. To erase the learned input signal, highlight the check box for that input and press CANCEL.

7. Repeat for each connected input.

8. When the input selection signals have been learned and the inputs named, press ADJUST ▶ to select **Next>** and move to the A/V Receiver Learn screen.

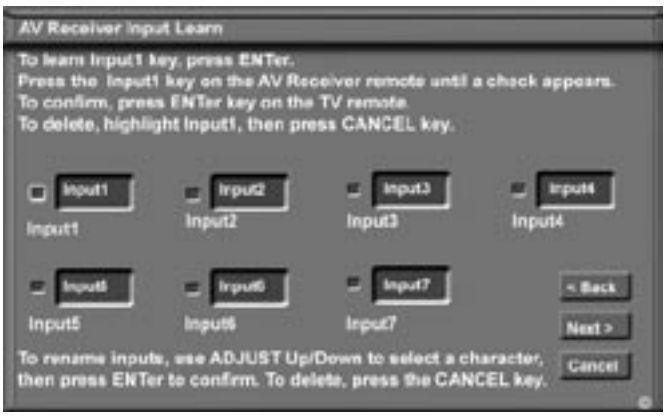

AV Receiver Input Learn
To learn Input1 key, press ENTer.
Press the Input1 key on the AV Receiver remote until a check appears.
To confirm, press ENTer key on the TV remote.
To delete, highlight Input1, then press CANCEL key.
Input1
Input2
Input3
Input4
Input5
Input6
Input7
< Back
Next >
Cancel
To rename inputs, use ADJUST Up/Down to select a character, then press ENTer to confirm. To delete, press the CANCEL key.

Figure 8. A/V Receiver Input Learn screen

A/V Receiver Learn Screen

Figure 9

1. Press ADJUST ◀ or ▶ on the TV remote to select the check box for each function to be learned.

2. Press ENT(er) and the name will begin to flash to confirm the ready-to-learn status.

3. Press the button on the A/V Receiver's remote control that corresponds to the selected function. A check mark will appear and the function name will stop flashing. This confirms the learned status.

4. To test the learned command, press ENT(er) on the TV remote. The A/V Receiver will perform the selected function. The A/V Receiver needs to be turned on and the IR emitters properly placed for the test to be successful (see page 37 in Book 1 for IR emitter placement).

5. Repeat for each function to be learned.

6. To erase a learned function, highlight the check box for that function and select Cancel.

7. When the function signals have been learned, use ADJUST ▶ to select **Next>** and move to the Name screen.

Hint: *If your A/V Receiver remote control uses a single button for both Power On and Power Off, don't learn the Power Off function. If your A/V Receiver uses a single button to toggle between digital and analog sound, then learn only Analog to Digital. If your A/V Receiver automatically switches between analog and digital audio, then you don't need to learn either Analog to Digital or Digital to Analog functions.*

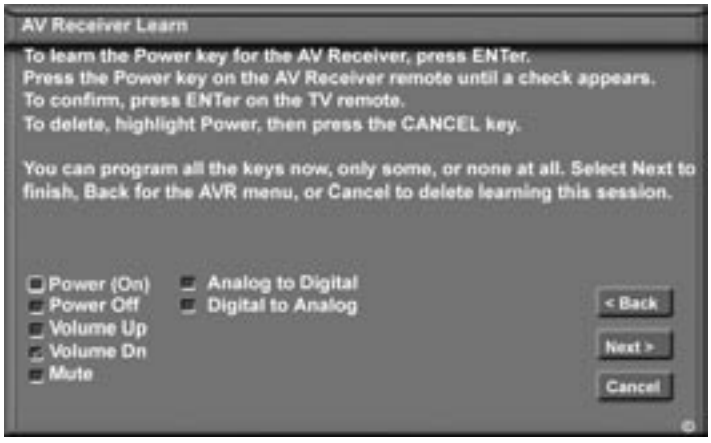

AV Receiver Learn
To learn the Power key for the AV Receiver, press ENTer.
Press the Power key on the AV Receiver remote until a check appears.
To confirm, press ENTer on the TV remote.
To delete, highlight Power, then press the CANCEL key.
You can program all the keys now, only some, or none at all. Select Next to finish, Back for the AVR menu, or Cancel to delete learning this session.
Power (On)
Power Off
Volume Up
Volume Dn
Mute
Analog to Digital
Digital to Analog
< Back
Next >
Cancel

Figure 9. A/V Receiver Learn screen

Edit NetCommand®, Adding an A/V Receiver, continued

Name Screen

Figure 10

The Name screen allows you to change the default name for the A/V Receiver to a custom name of up to eight characters (including a blank space), selecting from letters, numbers, and nine different characters. Using the remote, press ADJUST ▲ and ▼ to select each letter, then press ENT(er) to move to the next position. Press CANCEL to delete the current letter and move back one character position. When in the first position, the CANCEL button will return the name to the default name.

Name
Name the AVR. This is the name you will see when you switch inputs using the DEVICE key. You can use the same name shown, or change the name using up to 8 characters. Use ADJUST Up or Down to select a character. Press ENTer to select the next character. Press the CANCEL key to delete a character and go back one. Select the Next button to see the connections.
AVR
Name
< Back
Next >
Cancel

Figure 10. Name screen

Monitor Out to AVR Screen

Figure 11

Use this screen if you connected Audio 2 Out or Audio Video 1 Out from Monitor Output of the TV to the A/V Receiver. Select Audio 2 or Audio Video 1 on this screen and then select the input on the A/V Receiver connected to Monitor Out.

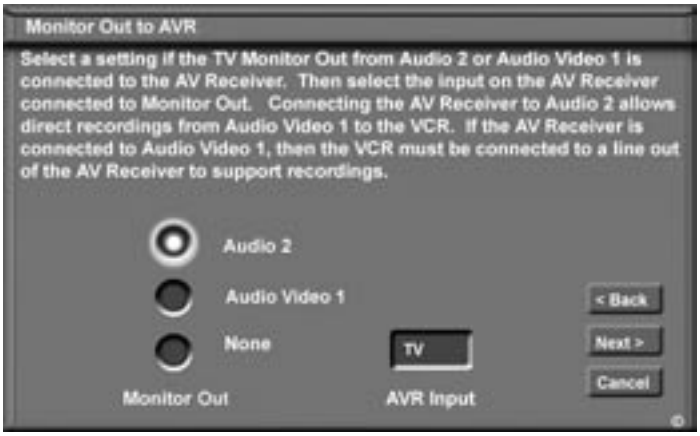

Monitor Out to AVR
Select a setting if the TV Monitor Out from Audio 2 or Audio Video 1 is connected to the AV Receiver. Then select the input on the AV Receiver connected to Monitor Out. Connecting the AV Receiver to Audio 2 allows direct recordings from Audio Video 1 to the VCR. If the AV Receiver is connected to Audio Video 1, then the VCR must be connected to a line out of the AV Receiver to support recordings.
Audio 2
Audio Video 1
None
Monitor Out
TV
AVR Input
< Back
Next >
Cancel

Figure 11. Monitor Out to AVR screen

Audio 2 is the default selection and allows an analog VCR to be connected directly to Audio Video 1 out for recordings. If Audio Video 1 is chosen, then the VCR must be directly connected to VCR record outputs on the A/V Receiver.

Finish Screen

Figure 12

To finalize your selections and complete the A/V Receiver setup, select **Finish** from the Finish screen

> **Note:** To assign learned inputs to devices, select the Edit button to display the Edit NetCommand menu.

Finish
You have completed NetCommand® setup. To change the inputs or device names, select the Edit button. To make changes in the future, go to Setup in the TV menu, and select Edit NetCommand®. If there are no changes now, select Finish.
Edit
Finish

Figure 12. Finish screen

Edit NetCommand®, Adding Devices

Mitsubishi's NetCommand offers the ability to edit your home theater configuration so that you can add new devices, change device settings and connection inputs, delete devices and even learn the remote control IR signals of devices that are not already in the NetCommand memory.

NOTE: Select **Next>**, then press **ENT(er)** at each screen, to move forward to the next screen.

Edit NetCommand Option at the Setup Menu

Figure 13

The five setting on the Setup Menu: Add, Change, Delete, Review and Initial are used to change the NetCommand setup to reflect a change in your home theater system. To learn the remote control IR signals of a device that is not already in the NetCommand memory, add this device as manufacturer of "Other". The learning screens will then automatically be included in the series of screens used for adding the device.

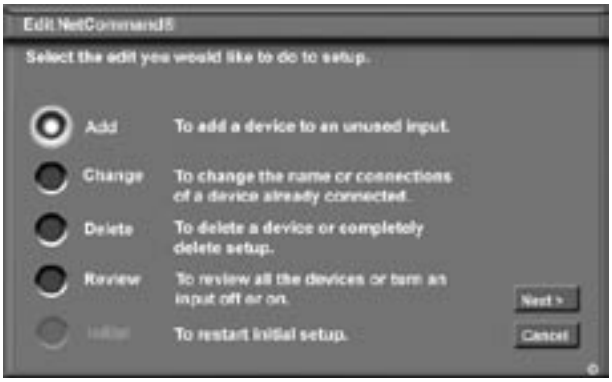

Edit NetCommand®
Select the edit you would like to do to setup.
Add
To add a device to an unused input.
Change
To change the name or connections of a device already connected.
Delete
To delete a device or completely delete setup.
Review
To review all the devices or turn an input off or on.
To restart initial setup.
Next >
Cancel

Figure 13. Setup Menu Edit NetCommand Option

Add:
Add a new device to the NetCommand setup.

Change:
Change the brand/model or input connections of a device already listed in the configuration. Learn the remote control signals of devices listed as "Other" brands.

Delete:
Remove a device or erase the complete NetCommand home theater configuration. The learned remote control signals are erased when the associated device is deleted.

Review:
View a list of all devices and input connections in the NetCommand home theater configuration. This is also where you can turn on or off unused TV inputs or devices.

Initial:
Start the setup at the beginning. This button only becomes available after deleting the complete configuration, or if NetCommand was not set up when the TV was first powered On.

Add

Figure 14

Select "Add" from the Edit NetCommand screen, and the New Device screen will display. Select the Device type that you would like to add. You may add your A/V Receiver (if not added in Initial setup) Cable Box, Camcorder, DBS, DVD, Laser Disc, PC and VCR.

At the next screen, choose the manufacturer. If you choose "Other" for the manufacturer, the device (A/V Receiver, Cable, DBS, DVD or VCR) can be learned. For device types Laser, Cam(corder), and PC, the "Learn" screen is skipped. There is no NetCommand support and no learning.

At the next screen, you can keep the default Name or select a custom Name for the device, using ADJUST ▲ or ▼ to select letters A-Z, numbers 0-9, and/or symbols (!.&'/ :*- and blank) for each character of the name you would like for the selected channel.

The next screen displays the Connection screen (RF Connection for Cable Box). Select the TV and A/V Receiver inputs that the device is connected to. Connecting only audio to the A/V Receiver is recommended. The A/V Receiver may need configuring for digital audio.

New Device
To add a new device, select the device type. Then the manufacturer for the device can be entered.
VCR
Device Type
< Back
Next >
Cancel

Figure 14. Add screen

Edit NetCommand® Adding Devices, continued

[Device] Screen

Figure 15

If you selected “Other” in the Initial NetCommand Setup screen, then you can edit the device name and start learning. If you selected “None”, then you can add a device. If you have added a new device or changed an input in your home theater system, use this screen to start learning.

Our examples show the choices for adding a VCR, however, the same type of screens will appear for any DBS (Direct Broadcast Satellite), DVD player or Cable Box.

VCR
Select the manufacturer of the VCR. If the manufacturer is not listed, select Other, then select Learn to setup NetCommand® control. If you have a listed manufacturer, but the model is not supported, to Learn, select Other as the manufacturer.
You can choose to learn now or skip and learn later.
Mitsubishi1
Manufacturer
< Back
Next >
Cancel
NetCommand® settings optimized for model HSU-795, other models may still be compatible, test your unit.

Figure 15. [Device] screen

Choose ONE of these options:

1. Select a recognized manufacturer. The model number optimized for NetCommand will display at the bottom of the screen. If a number follows the manufacturer’s name, (example: Mitsubishi 1), this indicates additional models are optimized for that manufacturer. For many device types, non-listed models will operate in the same way as the listed models and you can still use the pre-loaded setting.

   After selecting **Next>**, the screens that follow are: the Name Screen (Figure 18), Connection screen (Figure 19) and specialized device screens (Figures 20-24), ending with the Finish screen (Figure 27).

2. Select “Other”, then highlight “Learn” and press ENT(er). This will allow you to have NetCommand learn the remote control signals of this new device.

   After selecting “Learn” and pressing ENT(er), the screens that follow are: [Device] Learn screen (Figure 16), [Device] Advanced Learn screen (Figure 17), Name screen (Figure 18), Connection screen, (Figure 19) and specialized device screens (Figures 20-24), ending with the Finish screen (Figure 27).

3. Select “Other”, skip Learn and select **Next>**. This will allow the device to appear and will allow NetCommand to switch inputs to use this device. However, NetCommand will not be able to control this device. Later you may use the “Change” option in the Setup menu to learn the remote control signals.

   After selecting **Next>**, the screens that follow are: the Name Screen (Figure 18), Connection screen (Figure 19) and specialized device screens (Figures 20-24), ending with the Finish screen (Figure 27).

[Device] Learn Screen

Figure 16

Shown only if “Learn” was selected (Figure 15)

1. Press ADJUST ▲, ▼, ◀ or ▶ to select the check box for each function to be learned.

2. Press ENT(er) and the name will begin to flash to confirm the ready-to-learn status.

3. Press the button on the device’s remote control that corresponds to the selected function. A check mark will appear and the function name will stop flashing. This confirms the learned status.

4. To test the learned command, press ENT(er) on the TV remote. The device should perform the selected function, if turned on and the IR emitters properly placed (see page 37 in Book 1 for IR emitter placement).

5. Repeat for each function to be learned.

6. To erase a learned function, highlight the check box for that function and press CANCEL.

7. When the function signals have been learned, press ADJUST ▶ to select **Next>** and move to the [device] Advanced Learn screen.

Hint: *If the device’s remote control uses a single button for both Power On and Power Off, don’t learn the Power Off function.*

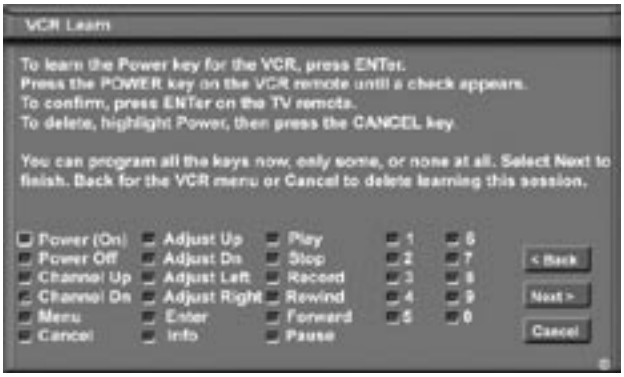


Figure 16. [Device] Learn screen

Edit NetCommand®, Adding Devices, continued

Please refer to the Guide on page 20 to see if the screen described below is necessary for your device setup.

[Device] Advanced Learn Screen

Figure 17

After learning the basic device keys, the [Device] Advanced Learn screen allows you to learn any special keys for your device. Most common IR remote control signal formats can be learned by NetCommand.

A table of specialized device keys is shown in Appendix E. You only need to learn the functions your devices respond to and can ignore the functions that do not apply to your device.

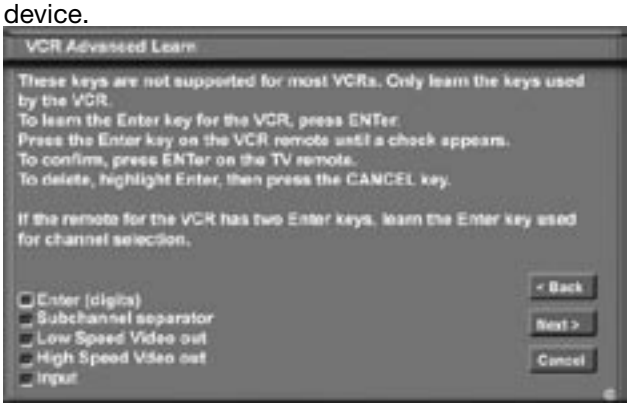

VCR Advanced Learn
These keys are not supported for most VCRs. Only learn the keys used by the VCR.
To learn the Enter key for the VCR, press ENTer.
Press the Enter key on the VCR remote until a check appears.
To confirm, press ENTer on the TV remote.
To delete, highlight Enter, then press the CANCEL key.
If the remote for the VCR has two Enter keys, learn the Enter key used for channel selection.
Enter (digits)
Subchannel separator
Low Speed Video out
High Speed Video out
Input
< Back
Next >
Cancel

Figure 17 [Device] Advanced Learn screen

Name Screen

Figure 18

The Name screen allows you to change the default name for each device to a custom name of up to eight characters (including a blank space), selecting from letters, numbers and nine different characters. Use ▲ and ▼ to select each letter, then press ENT(er) to move to the next position. Press CANCEL to delete the current letter and move back one character position. When in the first position, the CANCEL button will return the name to the default name.

Name
Name the VCR. This is the name you will see when you switch inputs using the DEVICE key. You can use the same name shown, or change the name using up to 8 characters. Use ADJUST Up or Down to select a character. Press ENTer to select the next character. Press CANCEL key to delete a character and go back one. Select the Next button to see the connection.
VCR2
Name
< Back
Next >
Cancel

Figure 18. Name screen

Connection for [Device] Screen

Figure 19

This screen allows you to match the device names with the inputs that you used to connect to the TV in book 1. Inputs 1-3, Components 1 & 2, Input-DTV and/or the A/V Receiver all need to be checked, if connected. Add or remove check marks to indicate what type of connections (Audio, Video or Both) are used with each input.

Note: Video inputs to the A/V Receiver are normally used to transfer signals to the line input of a VCR for recording. Mitsubishi recommends leaving Video unchecked, except when the VCR for recording is connected to the A/V Receiver. If your VCR inputs are connected to the TV outputs Audio 2, then you do not need to connect video to your A/V Receiver

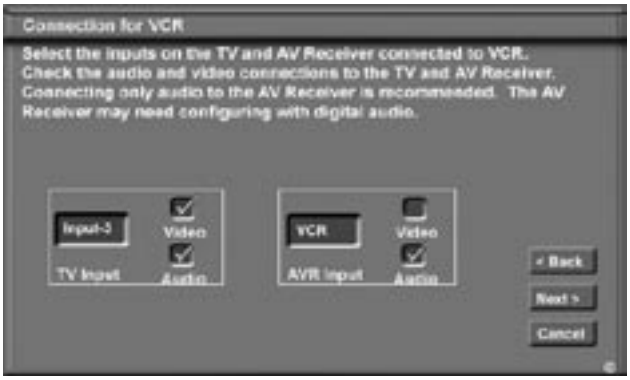

Connection for VCR
Select the inputs on the TV and AV Receiver connected to VCR.
Check the audio and video connections to the TV and AV Receiver.
Connecting only audio to the AV Receiver is recommended. The AV Receiver may need configuring with digital audio.
Input-3
Video
Audio
TV Input
VCR
Video
Audio
AVR Input
< Back
Next >
Cancel

Figure 19. Connection for [Device] screen

VCR for Recordings Screen

Figure 20

This screen allows you to select the VCR you would like to use for recording. You may also select whether you want the recorded 16:9 signals from Ant-DTV or IEEE-1394 devices to be cropped (sides are cut off) or Anamorphic (full screen). If Anamorphic is selected for viewing, choose the Standard format for the best quality playback.

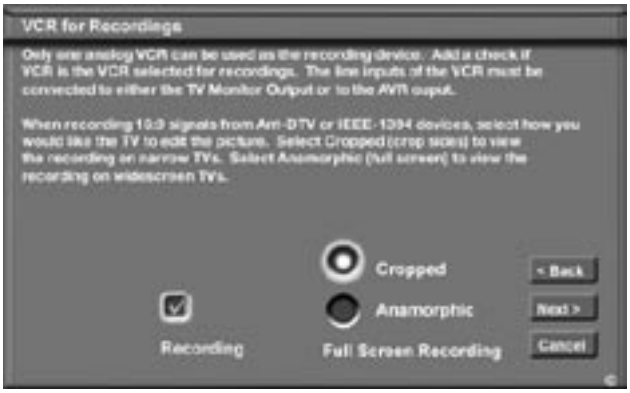

VCR for Recordings
Only one analog VCR can be used as the recording device. Add a check if VCR is the VCR selected for recordings. The line inputs of the VCR must be connected to either the TV Monitor Output or to the AVR ouput.
When recording 16:9 signals from Ant-DTV or IEEE-1394 devices, select how you would like the TV to edit the picture. Select Cropped (crop sides) to view the recording on narrow TVs. Select Anamorphic (full screen) to view the recording on widescreen TVs.
Cropped
Anamorphic
Recording
Full Screen Recording
< Back
Next >
Cancel

Figure 20. VCR for Recordings screen

Edit NetCommand®, Adding Devices, continued

Please refer to the Setup Guide on page 20 to see if the screen described below is necessary for your device setup.

RF Connection for Cable Screen

Figure 21

The RF Connection screen displays only when Adding or Changing a Cable Box. If your Cable Box is connected to a TV Antenna input, make sure the RF checkbox is checked. Select the TV antenna input that is used with the Cable Box. If the Cable Box is also connected to a VCR for recording, select that VCR.

If your Cable box is connected using Audio/Video cables, make sure the RF checkbox is unchecked. Then the next screen will be Connection (Figure 19) to allow the selection of the TV input used with the Cable Box.

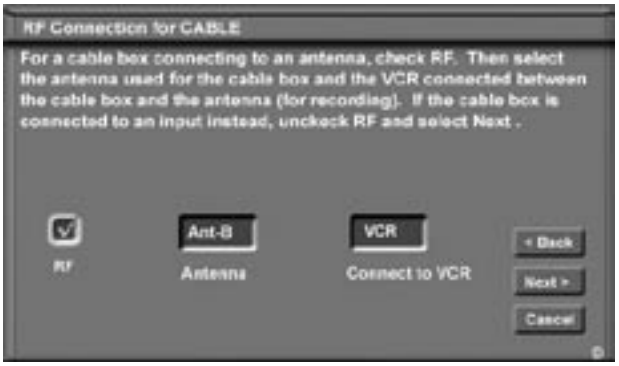

RF Connection for CABLE
For a cable box connecting to an antenna, check RF. Then select the antenna used for the cable box and the VCR connected between the cable box and the antenna (for recording). If the cable box is connected to an input instead, uncheck RF and select Next .
RF
Ant-B
Antenna
VCR
Connect to VCR
< Back
Next >
Cancel

Figure 21. RF Connection for Cable screen

Fixed Channel Screen

Figure 22

If the device being connected is a cable box and the “RF” box (Figure 21) is checked, the Fixed Channel screen allows you to select the channel number used for output by your cable box. The Fixed Channel screen allows you to select the channel number that is used for output by your cable box. The default channel is 003.

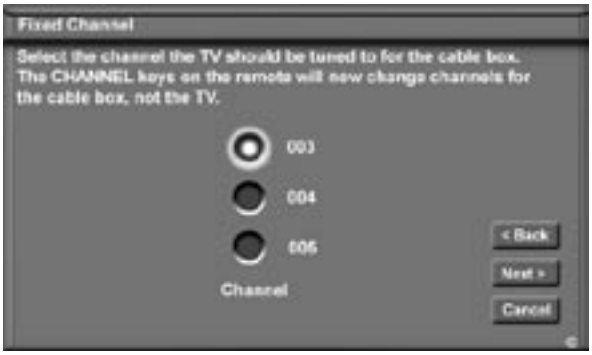

Fixed Channel
Select the channel the TV should be tuned to for the cable box. The CHANNEL keys on the remote will now change channels for the cable box, not the TV.
003
004
005
Channel
< Back
Next >
Cancel

Figure 22. Fixed Channel screen

Input-DTV Connection Screen

Figure 23

This screen displays only if the device selected in the Connection screen (Figure 19) is connected to Input-DTV. This is usually DBS, but can be Cable Box. The Input-DTV Connection screen allows you to select the connection type, RGB (HV) or Component YPbPr you are using to connect your cable box or DBS.

Figure 23. Input-DTV Connection screen

IR Code for [Device] Screen

Figure 24

This screen only displays if an added device has the same IR code as a previously added device of the same type and manufacturer. You can specify the IR setting for the new device. For example, for the second Mitsubishi VCR you can specify the IR Code setting to VCR-B, if the primary Mitsubishi VCR is using the VCR-A IR code.

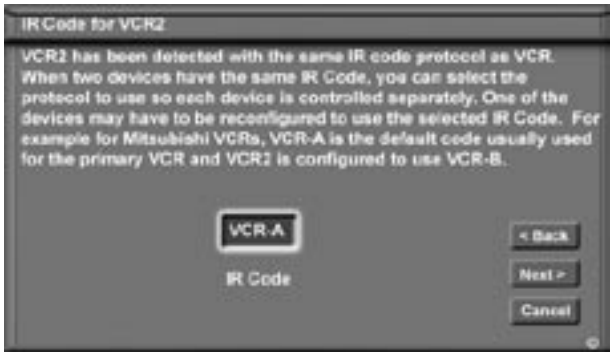

IR Code for VCR2
VCR2 has been detected with the same IR code protocol as VCR. When two devices have the same IR Code, you can select the protocol to use so each device is controlled separately. One of the devices may have to be reconfigured to use the selected IR Code. For example for Mitsubishi VCRs, VCR-A is the default code usually used for the primary VCR and VCR2 is configured to use VCR-B.
VCR-A
IR Code
< Back
Next >
Cancel

Figure 24. IR Code for [Device] screen

Edit NetCommand®, Change or Delete Devices, Finish Screen

Change

Figure 25

Selecting Change from the Setup menu screen, displays the Change screen. To change a device, select the device by name, not type. You can change the name or input connections to the TV and A/V Receiver. If "Other" is selected for the manufacturer then you can also "Learn". The rest of the screens that follow are the same as when you Add a device.

Change
Select the name of the device that will be changed. Then Select Next to change the manufacturer, rename the device or to change the connections for the device.
Mitsubishi M-VR800
AVR
Device Name
< Back
Next >
Cancel

Figure 25. Change screen

Delete

Figure 26

Selecting Delete at the Setup menu, displays the Delete screen. You can choose to delete a single device by selecting the device you would like to delete, or you can delete the entire NetCommand configuration. After you have chosen the device, or the entire configuration, you will be prompted to confirm your choice to delete. If you select the Entire Configuration, the Initial button becomes available on the Edit NetCommand screen. If you delete an "Other" device that you learned the remote control signals for, the learned signals are erased.

Delete
Please choose what you would like to delete, a single device, or the complete configuration, including the manufacturer of all devices previously entered.
Device
Delete
Entire Configuration
< Back
Next >
Cancel

Figure 26. Delete screen

Finish Screen

Figure 27

To finalize your selections and complete the NetCommand setup, select **Finish** from the Finish screen.

> **Note:** To change any of the inputs or names for the devices, or add devices not in included in the initial settings, select Edit to display the Edit NetCommand menu.

Finish
You have completed NetCommand® setup. To change the inputs or device names, select the Edit button. To make changes in the future, go to Setup in the TV menu, and select Edit NetCommand®. If there are no changes now, select Finish.
Edit
Finish

Figure 27. Finish screen

IMPORTANT

NetCommand does not allow you to delete a device or change the connections for a device (like a VCR or a DVD player) if the device (input) is currently being displayed by the TV.

Switch the TV to a different device from the one you are changing or deleting. To change the A/V Receiver, you need to be listening to the TV speakers.

Chapter . . . 3

Device Selection

Connecting IEEE 1394 Devices 32
Automatically Adding IEEE 1394 Devices 34
Device Selection Menu 36
PIP Device Selection Menu Displaying and Using the Transport Menu 37
Channel Selection, Sleep Timer, Audio and Video Buttons 38
NetCommand® Controlled Recordings 39

Connecting IEEE 1394 Devices

4-Pin Style vs. 6-Pin Style

There are two different types of connectors used for IEEE 1394 terminals and cables, a 4-pin and a 6-pin style.

4 pin connector

The 4-pin connector is capable of sending digital audio signals, digital video signals and digital control signals back and forth between devices. Your TV has three 4-pin type connection jacks available, one on the front panel and two on the back panel.

6 pin connector

The 6-pin connector is capable of sending the same digital audio, video and control signals as the 4-pin connector, but the 6-pin connector is also able to send low voltage electrical power. The TV does not have 6 pin connectors.

The purpose of this low voltage electrical power is to provide the needed operating power to a device that is not connected directly to the household AC power such as a camcorder. A device with a 6-pin connector can send this electrical power to another device, or receive electrical power from another device, or simply use a 6-pin connector without using the two additional pins.

6 pin to 4 pin adaptor

A 6-pin connector cannot be connected directly to a 4-pin jack, and vice versa. To connect a 6-pin device to a 4-pin device, you will need to obtain a 6-pin to 4-pin adaptor. These adaptor cables are available from electronic and computer stores.

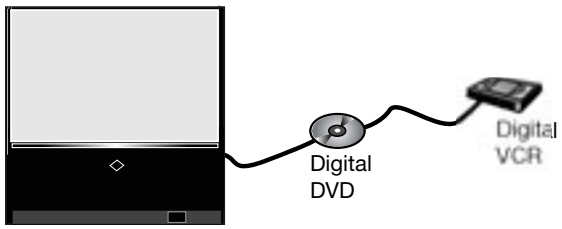
If you connect a 6-pin device to the TV (such as a camcorder) that is designed to receive electrical power from another 6-pin device, then you will need to connect the camcorder directly to the household AC, or use the camcorder's battery for power. If this is not possible, then the camcorder will need to be connected directly to another 6-pin device in the network that can provide the electrical power.

Connection Styles

There are two different connection styles that can be used when connecting IEEE 1394 devices. Use the style that fits your network of audio/video products.

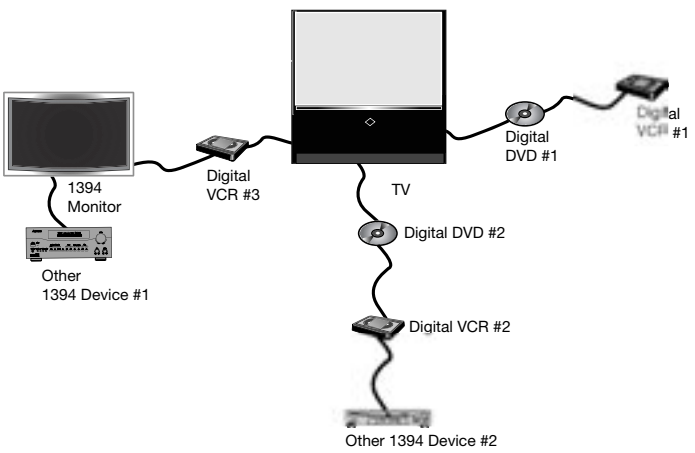
Direct Device-To-Device Style

The IEEE 1394 offers you the capability to chain devices, unlike previous audio and video connections where you had to individually connect each device directly to the TV. For example, you can connect your D-VHS to your 1394 DVD Player and then connect the 1394 DVD Player to the TV. The resulting IEEE 1394 chain will allow you to add more devices to the chain. You will be able to see each video device on the TV's Device Selection menu and send information from any IEEE 1394 device to other compatible devices.



Hub Connection Style

The IEEE 1394 also offers you the capability to connect your devices using the TV as a hub within the audio/video network. Each device can send information, which may include audio and video, to any other device in the network.



Connecting IEEE 1394 Devices, continued

When Connecting IEEE 1394 Devices

- Do not loop the last device in the chain back to the TV. When the device chain is looped, the TV may not be able to work with the other devices.

- Place devices that have only a mechanical (two-position) power switch at the end of the chain or leave the power switch in the ON position. When turned OFF, IEEE 1394 signals may not be able to pass through the device to other devices.

- Place devices with the slowest communication speed at the end of the chain. Sometimes the communication speed will be marked near the IEEE 1394 connector with an "S" number. The higher the number, the faster the communication speed. Devices with slow communication speed can interfere with IEEE 1394 signals from faster devices. When using NetCommand to set up a digital recording between a faster and slower device, select "Record Later". The TV is a S400 speed device.

- Do not use an IEEE 1394 cable longer than 15 feet between each device.

- This TV is an IEEE 1394a Device. IEEE 1394b is currently under development. This system will provide for longer distances and multi-room applications. Included in the IEEE 1394b systems are IEEE 1394a to IEEE 1394b converters to maintain compatibility with this TV and other IEEE 1394a devices.

Adding IEEE 1394 Devices Automatically

When an IEEE 1394 device is connected into the TV network and is powered ON, the new device will automatically announce its presence. This process is called device discovery and can take up to 1 minute. Some non-audio/video or non-compatible IEEE 1394 devices, such as Personal Computers (PCs), may not announce their presence to the TV. The TV will not be able to show these devices in the Device Selection menu, however, they can coexist and will still be available to other devices on the IEEE 1394 network that are compatible with these non-audio/video devices.

IEEE 1394 cable boxes and satellite receivers may require that you use the remote control that came with those devices. For some compatible devices, the Cable/DBS/DTV position of the TV remote control may be able to control operation.

New 1394 Device Screen

Figure 1

When your TV discovers a new IEEE 1394 device, the New 1394 Device screen will appear. Selecting Add will include the device in the Device Selection menu. Selecting Not Added will not add the device to the Device Selection menu. If the IEEE 1394 device does not provide audio and video, you may not want to add that device to the TV's Device Selection menu. Devices that were discovered but not added to the Device Selection menu will still be listed in the Review screen of the Edit NetCommand® menu.

New 1394 Device
A new 1394 device has been discovered. The device is a Mitsubishi HS-HD2000U. Select the Add button to include in the menu when the DEVICE key is pressed. Add any device that includes video. You may not want to include audio only devices such as a CD player. Then select the Next button to name the device.
Add
Not Added
Device Selection menu
Next >
Cancel

Figure 1. New 1394 Device screen

Name for 1394 Device Screen

Figure 2

If you choose to add the discovered IEEE 1394 device, the Name for 1394 Device screen will appear. Name the device or use the default name that appears automatically.

Some IEEE 1394 digital devices, such as some D-VHS VCRs, can also operate as analog devices. For example, some D-VHS VCRs can record and play as VHS or S-VHS. This allows you to play analog rental tapes or analog tapes from your established library or make analog recordings from antenna or cable systems. To use the analog capability, check the Analog Connection box.

Name for 1394 Device
Select the name that displays on the menu when the DEVICE key is pressed. To name, press ADJUST to select a letter, then ENTer for the next letter. Press CANCEL to delete a letter. To include an analog connection to an input on the TV, add a check mark for Analog Connection.
DVCR
Name
Analog Connection
< Back
Next >
Cancel

Figure 2. Name for 1394 Device screen

Automatically Adding IEEE 1394 Devices

IEEE 1394 Device Type Screen

Figures 3 and 4

If the new IEEE 1394 device is also connected using analog inputs, you will need to define the device type. Select the type of device, such as a VCR.

1394 Device Type
Select the type of device connecting directly to the TV. If the device type is supported, the TV will provide automatic switching for the analog connection to the TV.
VCR
Device Type
< Back
Next >
Cancel

Figure 3. IEEE 1394 Device Type screen

Once the device type is selected, the Device screen is displayed and the manufacturer can be selected. If the manufacturer is listed, you may be able to control this device while it is operating as an analog VCR. For example, if the IEEE 1394 device you have added is a Mitsubishi D-VHS VCR, and you have selected an analog connection as a second connection, then you will select Mitsubishi for the manufacturer. If the manufacturer is not listed, select Other and use the Learn screens.

Be sure to place an IR Emitter in front of the remote control sensor, just as you have done for other NetCommand® traditional devices. It is necessary to use the IR Emitter only when the D-VHS VCR is being used as an S-VHS or VHS VCR. When the D-VHS VCR is playing or recording digital signals in D-VHS, the TV will control the VCR through the IEEE 1394 cable.

VCR
Select the manufacturer of the VCR. If the manufacturer is not listed, select Other, then select Learn to setup NetCommand® control. If you have a listed manufacturer, but the model is not supported, to Learn, select Other as the manufacturer.
You can choose to learn now or skip and learn later.
Mitsubishi1
Manufacturer
< Back
Next >
Cancel
NetCommand® settings optimized for model HSU-796, other models may still be compatible, test your unit.

Figure 4. Device screen

Connection Screen

Figure 5

Select the TV input that you used when you connected the video or S-Video cables. You may also select the TV or A/V Receiver input you used when you connected the stereo audio cables. Match the input names for the TV Input and A/V Receiver Input selections. If your A/V Receiver has other inputs than those listed in the menu, those other inputs are not available for NetCommand.

The playback and record control of some DV camcorders may still operate by the IEEE 1394 cable automatically, even though you must use the video or S-video cable for the picture. In this case, when you select the Camcorder, be sure to select analog (not digital) from the pop up when a camcorder is selected from the Device Selection menu. Then the picture is shown via the analog connection but control is from IEEE 1394.

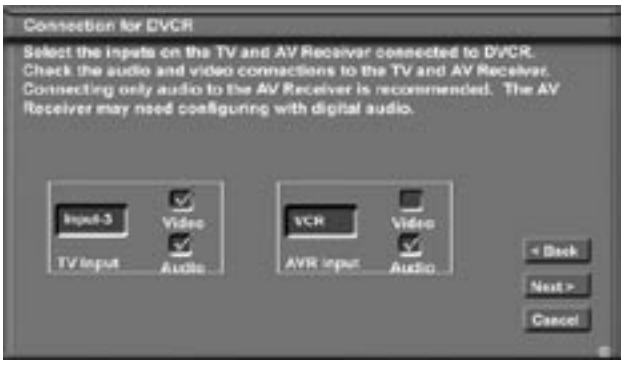

Connection for DVCR
Select the inputs on the TV and AV Receiver connected to DVCR. Check the audio and video connections to the TV and AV Receiver. Connecting only audio to the AV Receiver is recommended. The AV Receiver may need configuring with digital audio.
Input-3
Video
Audio
TV Input
VCR
Video
Audio
AVR Input
< Back
Next >
Cancel

Figure 5. Connection screen

Finish Screen

Figure 6

To finalize your selections and complete the NetCommand setup select Finish from the Finish screen.

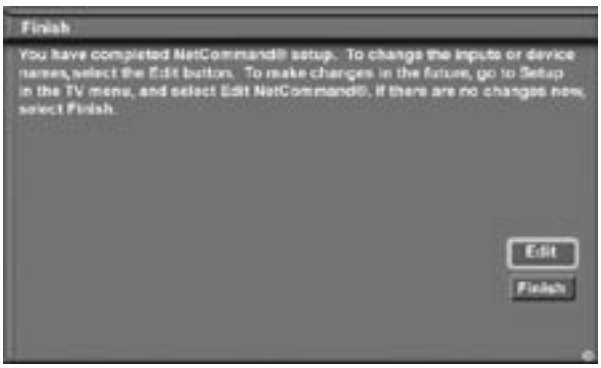

Finish
You have completed NetCommand® setup. To change the inputs or device names, select the Edit button. To make changes in the future, go to Setup in the TV menu, and select Edit NetCommand®. If there are no changes now, select Finish.
Edit
Finish

Figure 6. Finish screen

Automatically Adding IEEE 1394 Devices, continued

Compatible IEEE 1394 Devices

It is possible to connect devices to the TV that have IEEE 1394 connectors but are not compatible with the TV or with the NetCommand® control system. There are three areas of compatibility to consider:

1. Digital Video Signals

The TV is able to decode MPEG2 video. Other types of digital video, such as DV video, provided by some camcorders, must be decoded by the source device and sent to the TV as analog video or S-Video. If the camcorder uses a compatible digital control system, the IEEE 1394 cable can still provide control for the camcorder while the TV is viewing the analog video or S-Video signals.

2. Digital Audio Signals

The TV is able to decode Dolby Digital signals and MPEG Audio signals. Other types of digital audio as provided by some digital recording devices, such as MP3 Audio and DTS Audio, cannot be decoded by the TV when received over IEEE 1394.

The TV may not be able to pass incompatible digital audio signals on the coaxial digital audio output, however these signals may pass on the IEEE 1394 cable to other devices.

3. Digital Control Signal

The TV is able to act as the control center for IEEE 1394 audio/video devices, such as VCRs, A/V Discs, tuners, cable boxes and amplifiers that are compatible with the following IEEE 1394 control standards.

- **EIA-775** is designed for tuning devices such as cable boxes allowing the device to send simple graphics. However, this standard does not allow the TV to control the cable box by IEEE 1394.

- **AV/C (Audio Video Control)** is designed to provide basic controls such as play, stop, channel selection and volume, as appropriate for the device. Some devices may have an on-screen display for these functions.

- **HAVi (Home Audio Video Interoperablity)** can provide basic controls, similar to AV/C. Additionally, HAVi devices are able to "teach" the TV how to control more than basic functions. This allows the TV to control non-traditional devices or new types of devices not yet developed. The device will inform the TV what information and control buttons will be needed on device specific menus so the additional functions can be controlled.

  Some devices may be a combination of two or more types of devices. For example, there may be a recording device that is also a tuning device. Each portion of the device is called a sub-unit. When you select a device on the Device Selection menu that has sub-units, a pop-up menu will appear so you can select which sub-unit section you wish to use.

The TV is not able to control IEEE 1394 devices that use other types of control protocols. Incompatible digital audio, video and/or control information will still be able to pass from one device through the TV to another device on the network. These incompatible devices may not appear on the Device Selection menu or in the Review screen of the Edit NetCommand menu.

NetCommand Control of Digital Devices Using the "Learn" Feature.

Some IEEE 1394 devices such as cable boxes or satellite receivers will not have compatible digital control signals or require the use of the device's own remote control. Some of these IEEE 1394 devices will not display on-screen information through the IEEE 1394 connection and will require using an analog connection for on-screen displays. In many cases, to control these digital devices, the Learning feature of NetCommand can be used.

1. Place an IR Emitter for NetCommand in front of the device's remote control sensor (see IR Emitters, book 1, page 37).

2. On the Name for 1394 Device screen (Figure 2, page 33) check mark the Analog Connection check box.

3. Select the device type on the IEEE 1394 Device Type screen (Figure 3, page 34) of cable box, DBS or similar tuning device.

4. Select "Other" as a manufacturer and then highlight "Learn" and press ENT(er) on the Device screen (Figure 4, page 34).

5. Follow the device learning instructions found in Edit NetCommand section, (pages 27-28).

6. The Connection screen (Figure 5, page 34) follows the learning screens. If analog connections are used, select the correct inputs. If analog connections are not used, uncheck the audio and video connections for both the TV and AVR inputs.

7. Proceed with the Finish screen.

This will allow NetCommand to use the learned remote codes to control these IEEE 1394 devices.

> **Note:** When using the NetCommand learning feature for IEEE 1394 devices that do not have analog connections, the GUIDE function will require pressing GUIDE twice. The first press of GUIDE will display the TV's digital channel guide. The second press will display the program guide for the device.

Device Selection Menu

When you press DEVICE on the TV's remote control, the Device Selection menu (Figure 1) displays. If NetCommand® has not been setup, the Device Selection menu allows you to select an input for viewing. When NetCommand is setup the Device Selection menu allows you to select the device for viewing, select audio from the TV speakers or A/V Receiver, power compatible devices On or Off, and verify the destination of signals.

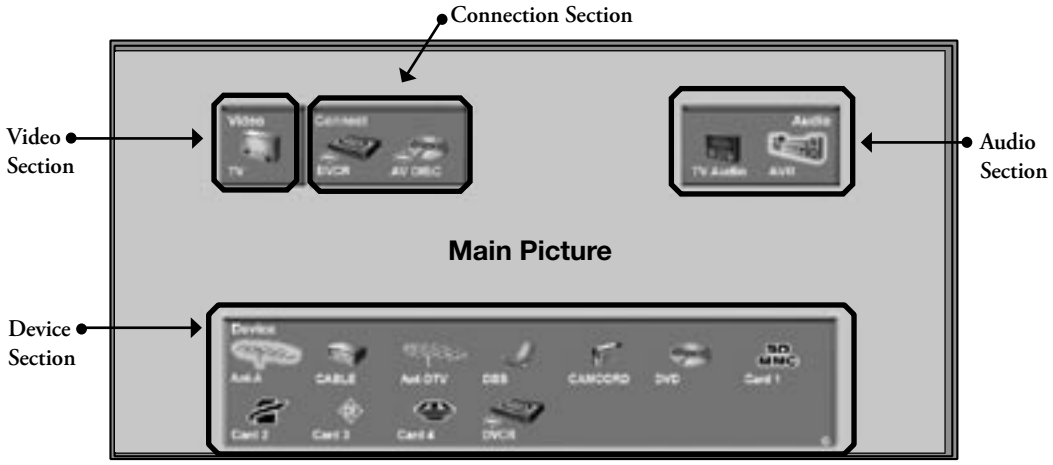


Figure 1. Device Selection Menu with NetCommand

Device Section

When the Device Section menu is displayed, the Device or Input you are currently viewing shows a gold-colored icon.

Press ADJUST ◀, ▶, ▲ or ▼ on the TV's remote control to move the highlight to another device or input.

Press ENT(er) to select the device you would like to view and hear. The TV inputs are automatically changed. If NetCommand is setup, the inputs on compatible A/V Receivers are automatically changed at the same time.

Power On/Off Devices

Some devices will power On automatically when you select to use the device. These devices will power Off automatically when you turn Off the TV. For devices that do not power On or Off automatically display the Device Selection menu, press ADJUST ◀ or ▶ to highlight the device icon and press POWER on the remote control. For the A/V Receiver, press AUDIO to move the navigation to the Audio Section. Highlight the A/V Receiver icon and press POWER. If you press POWER on the remote control when the Device Selection menu is not displayed, the TV will turn Off.

Video Section

The TV icon shows the destination for the device highlighted in the Device Section.

Connection Section

The Connection Section shows the other devices that are currently connected to the device highlighted in the Device Section. This icon will disappear when you move the highlight to another icon.

For example, if the Digital VHS (D-VHS) is currently recording from Ant-DTV, when you move the highlight to the Ant-DTV icon, the D-VHS icon will appear in the Connection Section.

Audio Section

When a NetCommand pre-memorized or learned IR controlled A/V Receiver, or HAVi amplifier has been connected to the TV and added to NetCommand Setup, an icon for this device will appear in the audio section. Press AUDIO to change navigation to the audio section. Then press ADJUST ◀, ▶, ▲ or ▼ to select the TV speakers icon or the A/V Receiver icon. Press ENT(er) to change the audio selection. Press DEVICE to return the navigation to the Device Section.

IMPORTANT

Only devices that were designed by their manufacturers to respond to separate On and Off remote control signals will be able to turn On automatically. Not all manufacturers provide this ability for their products.

PIP Device Selection Menu, Displaying and Using the Transport Menu

PIP Device Selection Menu

Figure2

When you press the PIP DEVICE button on the remote control, the PIP Selection menu displays. The PIP Selection menu display is similar to the Device Selection menu except the Video Section shows the destination for the video is the PIP/POP and the Audio and Connection Sections are not displayed.

Use the ADJUST ◀, ▶, ▲ or ▼ to move the yellow highlight to the device you want to show in the PIP or POP image then Press ENT(er). Device icons that are grayed out are not available for use as PIP/POP sources or with the current source.

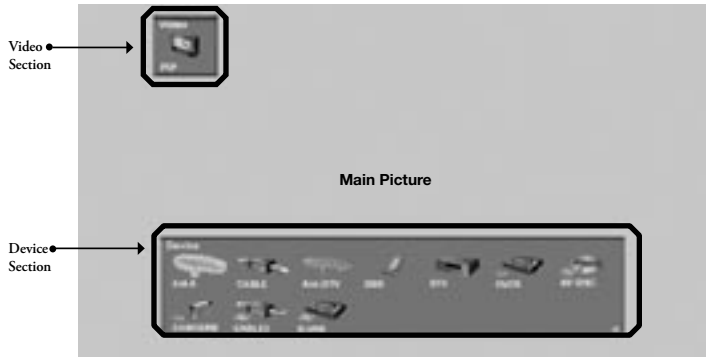


Figure 2. PIP Device Selection Menu

Displaying the Transport Menu

Figure 3

Selecting a VCR or DVD Player from the Device Selection menu will automatically display the Transport menu. This menu is also displayed when one of the transport buttons on the remote control is pressed while viewing these devices. You can also re-display this menu by pressing the DEVICE MENU button.

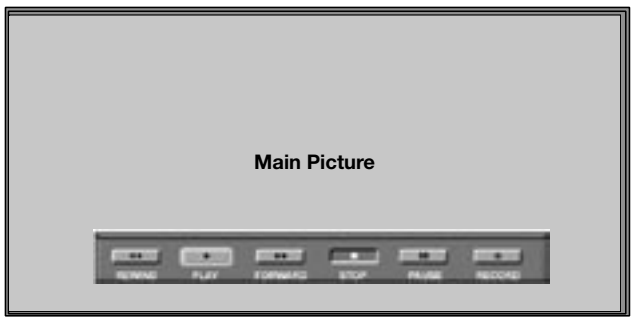


Figure 3. Transport Menu

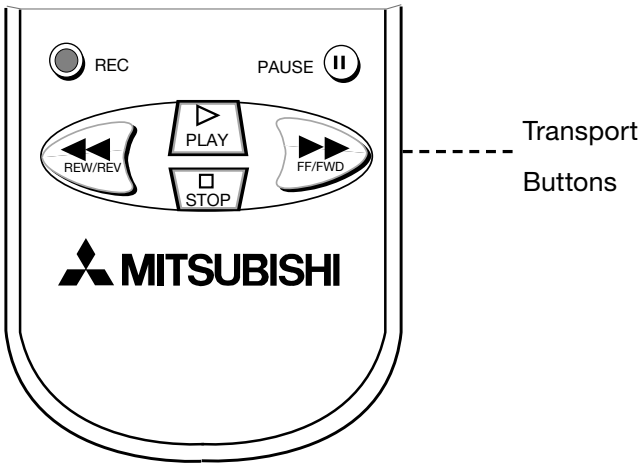
Using the Transport Menu

When the Transport menu is displayed, you can select transport functions on the menu by pressing ADJUST ◀, ▶, ▲ or ▼ and then select the function by pressing ENT(er). For example, if you want to pause playback, press ADJUST ◀ or ▶ to scroll over to the PAUSE key. Then press ENT(er) to pause.

To directly access a transport function, without using the ADJUST and ENT(er) buttons, you may press the desired function button on the remote control.

Please note that if a function is not possible, such as record for a DVD Player, the Transport menu button will be grayed out.

You can turn off the automatic display of the transport menu in the Setup menu of the TV. The Setup menu is explained in the next chapter. When turned off, the transport menu will not be displayed when you select VCR or DVD Player on the Device Selection menu, or press a transport button, or DEVICE MENU. However, even when the Transport menu is turned off, you can continue to operate the Transport functions of NetCommand® devices by pressing the transport control buttons on the remote control.



Channel Selection, Sleep Timer, Audio and Video Buttons

Channel Selection

There are three methods to select Antenna A or Antenna B channels:

1. Enter three numbers (for channel 2, press 002).

2. Press the channel number and ENT(er). Example: for channel 2, press 2, then ENT(er).

3. Enter the channel number and wait four seconds. The TV will change automatically.

For Antenna DTV:

1. Enter two or three numbers for the major channel number. If three numbers are pressed, the separator is automatically added and you may proceed to step 2. If two numbers are pressed, you must add the separator by pressing the CANCEL button on the remote control. Wait 4 seconds, the last subchannel will display.

2. a) Enter a 1-digit sub-channel number and wait four seconds, or

b) enter a 1-digit sub-channel number and press ENT(er), or

c) enter 2 digits for this sub-channel and the TV will automatically switch channels.

Sleep Timer

Setting the Sleep Timer:

1. Press SLEEP on the remote control.

Note: A message indicating the length of time the sleep timer is to be set for is displayed on the TV screen.

2. Each press of SLEEP increases the time displayed by 30 minutes, until the maximum value of 120 minutes is reached.

3. After 5 seconds of inactivity, the message will disappear.

4. Press SLEEP to view the remaining time before the timer turns the TV off.

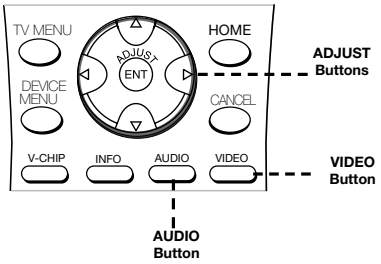
Canceling the Sleep Timer:

1. Press SLEEP to display the on-screen message.

2. Press SLEEP repeatedly until OFF is displayed.

Note: After 5 seconds of inactivity, the message box disappears.

Using the AUDIO and VIDEO Buttons on the Remote Control



You may adjust Audio or Video setting directly without using the TV Main menu.

1. Press AUDIO or VIDEO button to cycle through the available settings.

2. Press ADJUST ◀ or ▶ to adjust the setting. After 5 seconds of inactivity, the setting display will disappear.

Detailed information regarding Audio and Video settings is found on pages 54 and 55.

NetCommand® Controlled Recordings

Recording Setup

Figure 4

Your TV is able to start and stop recordings automatically and send the signals from one external playback device to another external recording device. It is also able to convert digital signals from Antenna DTV and from IEEE 1394 devices to analog signals that can be recorded on NetCommand compatible analog VHS and S-VHS VCRs. You cannot record from an analog device such as Antenna A, Antenna B or a VHS or S-VHS VCR to a digital recording device such as a D-VHS VCR or A/V Disc.

You can schedule the recording to take place at a later time and program the recording duration, in 30 minute increments, to last from 30 minutes to 6 hours.

When a digital recording is being made, the TV will direct the signals to the recording device using the IEEE 1394 cable. During the recording the TV is able to watch any analog source or can be turned off.

When an analog recording is being made, the TV will direct signals to the recording device using the stereo left and right audio and video for Audio Video 1 of Monitor Output.

During the analog recording, the TV can be powered Off. If the TV is powered On, it must be tuned to the source that is being recorded.

If the Monitor Audio Video 1 outputs are sent through the A/V Receiver to a recording device, then the A/V Receiver must be turned on and set to the TV input.

Figure 4. Record to screen

Recording Now

While viewing Ant-A, Ant-B, Ant-DTV, an IEEE 1394 device, or a non-recording traditional device, you can start Recording Now.

To initiate Recording Now:

1. Press REC (record) on the TV remote.
2. Press DEVICE on the remote control to select the source device choices that you can record from.
3. Press ADJUST ◀ or ▶ to select the source device you will record from.
4. Press ENT(er) to confirm selection and return to the "Record to" section.
5. In the "Record to" section, review the destination device (VCR1) and duration. Change if necessary.
6. Press REC a second time to initiate recording.

Time-Delayed Recording

To initiate a time-delayed recording:

1. Press REC (record) on the TV remote.
2. Press DEVICE on the remote control to select the source device choices that you can record from.
3. Press ADJUST ◀ or ▶ to select the source device you will record from.
4. Press ENT(er) to confirm selection and return to the Record to section.
5. Press ADJUST ◀ or ▶ to select the destination device, duration time, start time and day. For devices that can select channels, select the channel.
6. Select Add and press ENT(er) to add the recording to the record list (a confirmation message will be displayed).
7. To exit, press HOME on the TV remote after all recordings have been added.

Hint: *If your "Record to" device or "Source Device" do not turn on and off automatically (or have independent power on and power off commands), you need to manually turn on or leave powered on these devices prior to the scheduled recording time.* *See page 36 "Power On/Off Devices".* *When recording from a TV antenna, you do not need to leave the TV turned on.*

NetCommand® Controlled Recordings, continued

Record List Screen

Figure 5

To view a list of all of your currently programmed recordings, select List from the Record screen. A maximum of 32 recordings can be scheduled. To cancel a recording on the Record List, press ADJUST ▲ or ▼ to select the recording, then press CANCEL. To page through the list, press CH ▲ or ▼.

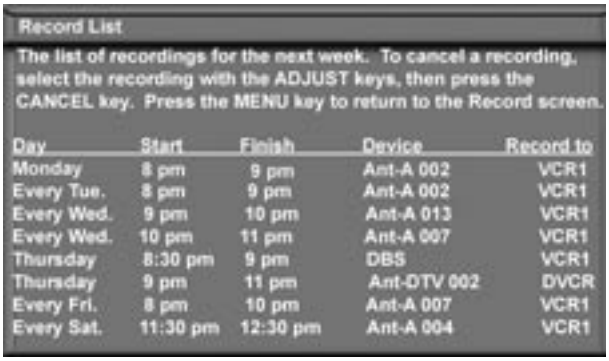

Record List
The list of recordings for the next week. To cancel a recording, select the recording with the ADJUST keys, then press the CANCEL key. Press the MENU key to return to the Record screen.
Day Start Finish Device Record to
Monday 8 pm 9 pm Ant-A 002 VCR1
Every Tue. 8 pm 9 pm Ant-A 002 VCR1
Every Wed. 9 pm 10 pm Ant-A 013 VCR1
Every Wed. 10 pm 11 pm Ant-A 007 VCR1
Thursday 8:30 pm 9 pm DBS VCR1
Thursday 9 pm 11 pm Ant-DTV 002 DVCR
Every Fri. 8 pm 10 pm Ant-A 007 VCR1
Every Sat. 11:30 pm 12:30 pm Ant-A 004 VCR1

Figure 5. Record List screen

Cancel Current Recordings

To cancel a recording in progress, press DEVICE to display the Device Selection menu and highlight the source of the recording. Confirm that the icon for VCR (or recording device) is in the Connection Section next to the TV icon. Press the CANCEL button. The icon for the VCR (or recording device) will disappear from the Connection Section to confirm the cancellation.

Copy-Protected Material

When attempting to record copy-protected material, the Record functions of the NetCommand and IEEE 1394 systems may be prevented or stopped.

If one of the sub-channels in a digital bitstream is copy-protected, then the entire bitstream, that is, all programs for that bitstream or channel, are similarly copy-protected. If you have a recording that is tagged “Record Once”, NetCommand will change the tag to “Record No More”.

Restrictions for Traditional VCRs

If turned On, the TV must be tuned to the source device.

- The VCR must be connected either directly to Audio Video 1 or, if the A/V Receiver is connected to Audio Video 1, then the VCR must be connected to the record outputs on the A/V Receiver.
- The VCR must be set manually to “line input”. Display the Device Selection menu, highlight the VCR and press GUIDE to change VCR inputs.
- If an A/V Receiver is connected to Audio Video 1, the A/V Receiver must be turned on.
- To record directly from antenna or cable, connect the TV “Loop Out” to the VCR “Antenna In.”
- The TV can select channels on compatible cable boxes for recordings. Leave the cable box turned on.
- If the source device, recording device or A/V Receiver does not have separate power On and Off features, then leave that device powered On.

Chapter . . . 4

TV Menu Screen Operations

Menu Screens Choices 42
Setup Menu 43
Antenna Menu 44
Time Menu 46
Captions Menu 48
V-Chip Lock Menu 50
A/V Settings Menu 53
A/V Settings Descriptions 54
Advanced Menu 56

Main Menu Choices

Setup

Figure 1

Add, change, review or delete NetCommand® settings and devices. You can also change the order of icons displayed on the Device Selection menu, select energy mode, turn on or off the transport menu, and select English or Spanish as the language for the menus and on-screen displays.

Figure 1. Main Menu, Setup selected

Antenna

Figure 2

Memorize locally available channels for Ant-A, Ant-B and Ant-DTV. You can manually add or delete channels from memory, name channels for Ant-A and Ant-B, or add your favorite channels to a SQV (SuperQuickView™) list.

Figure 2. Main Menu, Antenna selected

Time

Figure 3

Manually set the time for the TV, or select Auto and the TV will automatically set the time based upon Extended Data Service (XDS) time data. This time data is usually broadcast by your local PBS station. This menu is also used to set the TV timer.

Figure 3. Main Menu, Time selected

Captions

Figure 4

Display Closed Captions if sent by the broadcaster, select settings for analog or digital captions. When tuned to Antenna DTV, automatically displays the Digital Channel Guide as the channels are changed.

Figure 4. Main Menu, Captions selected

V-Chip Lock

Figure 5

Block or allow programing based upon rating signals sent by the broadcast station, lock by time, or disable or re-enable the front panel buttons.

Figure 5. Main Menu, V-Chip Lock selected

Audio/Video

Figure 6

The Audio Video Menu allows you to use the A/V Memory Reset to return A/V settings to the original factory settings for a selected device. You can also adjust some or all of the A/V settings, display a blue screen when viewing a device with no signal, enhance the darker parts of bright pictures or turn the TV speakers On or Off. Select Main Audio or PIP Audio as the source for Audio 2 output.

Figure 6. Main Menu, Audio/Video selected

Advanced

Figure 7

Adjust Color Balance automatically or manually. Your Mitsubishi TV uses six colors (Magenta, Red, Yellow, Green, Cyan and Blue) to create Color Balance. You may adjust the color intensity automatically or manually. You may also reset them to the default settings, using PerfectColor. If automatic Color Balance is selected, then the PerfectColor and Reset Color buttons will not be available.

Check the status of the lamp life. When the lamp life reaches 3,000 hours, the TV will display a warning message for one minute, every time the TV is powered on, until the lamp is changed.

Figure 7. Main Menu, Advanced selected

Setup Menu

Setup Menu
Figure 8

Select Setup to perform the following functions.

Figure 8. Setup Menu, NetCommand Option

Edit NetCommand®
Detailed information regarding Edit NetCommand is found in Chapter 2. The functions of Edit NetCommand are:

- ADD - Addition of new devices.
- CHANGE - Change or edit traditional devices and IEEE 1394 devices.
- DELETE - Delete a single device or delete the entire setup configuration. After deleting, you will be able to start with the Initial NetCommand screen.
- REVIEW - Review all devices connected to the TV, including IEEE 1394 devices, and turn devices and unused inputs On or Off.
- INITIAL - Allows initial setup, in the event NetCommand setup was cancelled or if the entire configuration was deleted or not completed.

Icon Position
Selecting the Icon Position screen allows you to arrange the device icon order on the Device Selection menu to your preferred sequence to make the operation of the TV easier.

Press ADJUST ▲ ,▼ ,◀ or ▶ to highlight the icon to be moved and then press ENT(er). Press ADJUST ▲ ,▼ , ◀ or ▶ to move the icon to the desired position and then press ENT(er) to secure the icon in the new position.

Transport Menu
The Transport Menu is used by NetCommand® to control VCRs, DVDs, IEEE 1394 AV Disc, digital VCRs, and similar devices. This menu can be turned off if you would rather not have it displayed. The transport buttons on the remote control will continue to operate these devices. See page 37 for more detailed information regarding this feature.

Energy Mode
This feature allows you to save electrical energy when the TV is off and in the standby mode. Standard mode uses more power but allows all of the background features to continue to operate. Low mode saves power (using less than 3 watts), however, using this selection will restrict or turn off many of the background features.

If the Energy Mode is set to Low the following features of the TV will be restricted or unavailable when the TV is turned off (Note: The features will operate normally when the TV is powered On).

- TV controlled recordings, including “Record Later “ recordings will not be possible.
- TV Time (clock) will be lost after approximately 48 hours. The clock will need to be reset through the Time menu.
- The Timer function cannot be used to turn on the TV.
- IEEE 1394 functions that pass through the TV or IEEE 1394 recordings from the TV or Ant-DTV will not be possible.
- The amount of time required to turn on the TV will increase to more than one minute.

Language

Display the on-screen menus in either English or Spanish (Español). The first time you powered On your TV, you were requested to select an on-screen menu language. If you choose to change the selection, all menu text will immediately switch to the language of your choice.

Antenna Menu: Antenna, Memorize Channels, Channel, Memory and Name

Antenna Menu

The following Antenna Menu options are available for use on Antenna A, Antenna B or Antenna DTV. You can memorize channels, add or delete channels, and add channels to an SQV (Super Quick View™) list. For Antenna A, Antenna B, you can name channels.

Antenna Menu

Figure 9
Select Antenna to perform the following functions.

Figure 9.Antenna Menu

Memorize

For Antenna A or Antenna B
Select Antenna A or Antenna B, then select either Air (when used with an indoor/outdoor antenna) or Cable (when used with direct cable). Press ENT(er) to start the automatic channel memorization process.

For Antenna DTV
Select Antenna DTV, then Air when used with an indoor/outdoor antenna. Select Antenna DTV then Cable or Cable (HRC) when used with Direct cable.

There are three types of digital cable systems: Standard, IRC and HRC. To memorize Standard or IRC, select Cable; to memorize HRC, select Cable (HRC).

Check with your Cable company to determine which type of Cable system they use. If your cable company cannot help you, select Cable.

To stop the automatic channel memorization process, press CANCEL. Channels memorized before you pressed CANCEL are retained in memory.

After memorizing channels, the channels in the memory can be accessed in ascending or descending order or by pressing CH ▲ or ▼ .

Channel

For additional Channel editing, press ADJUST ▲ or ▼ to select the channel for editing or press CH ▲ or ▼ for channels already in memory.

On Antenna DTV, when the broadcaster has sent a virtual channel number, the virtual channel number is shown in the text box and the original digital channel is shown below on-screen, as a reference.

Memory

After the available channels have been memorized with *Memorize*, weaker channels viewed with Antenna A or Antenna B can be added. Unwanted channels for Antenna A, Antenna B, or Antenna DTV can also be deleted. Press CH ▲ or ▼ on the remote control to see the channels in memory. Press ADJUST ▲ or ▼ to select Added or Deleted for the channel shown in the Channel number box.

Name

Channels shown on Antenna A or Antenna B can be named (up to four characters). After you enter a name, it will appear on the TV screen, next to the channel number.

1. Press ADJUST ▲ or ▼ to select each letter.

2. Press ENT(er) to set the letter and move to the next letter position.

3. Press CANCEL to move back one position.

Channels on Antenna DTV are automatically named, if the broadcaster sends the information.

Antenna Menu: SuperQuickView™ (SQV)

SQV (SuperQuickView™)

Using The Menu Screen

Figure 10

SQV (*SuperQuickView*™) allows you to put together lists of your favorite channels from Antenna A, Antenna B and Antenna DTV. You can store channels in any of the 9 different SQV memory banks. You can also store the same channel in multiple memory banks. Once you have added a channel to an SQV memory, "SQV" and the memory bank number will appear under the tuned channel number on the TV screen.

Adding SQV Channels

1. Select the channel using the "Channel" option box or press CH ▲ or ▼.

2. Highlight the bank (SQV1-SQV9).

3. Press ENT(er) to check mark the selected SQV memory bank.

4. Repeat for additional channels or banks.

Removing SQV Channels

1. Highlight the box for the SQV bank number.

2. Press ENT(er) to remove the check mark.

Figure 10. Antenna Menu, SQV (SuperQuickView)

SQV (SuperQuickView™)

Using The Remote Control

Viewing and changing SQV banks using the remote control:

1. Press the SQV button.

2. To change memory banks, press a number button within 5 seconds of pressing the SQV button.

3. Press the SQV button repeatedly to cycle through the channels available in that bank.

Adding SQV channels using the remote control:

1. Press CH ▲, ▼ or number buttons to select the channel you want to add to the current SQV memory bank.

2. Press and hold the SQV button for about 2 seconds. When "SQV" and the memory bank number appear under the channel number, the channel has successfully been added.

Removing SQV channels using the remote control:

1. Press the SQV button and then the memory bank number.

2. Press the SQV button repeatedly until you see the desired channel.

3. While the channel number and SQV indicator (with correct bank number) are still displayed on the screen, press the CANCEL button. If the CANCEL button is not pressed before the channel display disappears automatically, the channel will not be removed.

4. When the SQV indicator disappears, the channel has successfully been removed only from that bank. Other banks remain unchanged.

Time Menu: Setting the Clock, Manual or Auto

Time Menu

Select Time to perform the functions listed below.

Setting the Clock (Manual)

Figure 11

For the manual clock setting, select the current time, including AM or PM and the day. Hours and minutes are set separately.

Figure 11. Time Menu, Manual Clock Setting

Set Time

When Manual has been selected for the clock setting, you need to set the time.

Press ADJUST ◀ or ▶ to move to Time. Press ADJUST ▲ or ▼ to slowly select the hour or press and hold ADJUST ▲ or ▼ to quickly select the hour. Press ENT(er) to confirm the hour and move to the minutes, press ADJUST ▲ or ▼ to select minutes then press ENT(er) to confirm and move to am or pm. You may then press ADJUST ▲ or ▼ to select am or pm and ENT(er) to confirm.

Set Day

When Manual has been selected for the Clock Setting, you need to select the current day of the week. Press ▲ or ▼ to select the correct day.

Setting the Clock (Auto)

Figure 12

The Clock Setting (Auto) will automatically set the day and time using Extended Data Service (XDS) time data. This data is automatically retrieved from a PBS channel or other channel carrying this service when received on Ant-A or Ant-B. Be aware that some channels may send incorrect time information; this is not a defect in the TV.

Figure 12. Time Menu, Auto Clock Setting

Time Zone

When Auto has been selected for the Clock Setting, you need to select the correct time zone. Press ADJUST ▲ or ▼ to select the time zone (Atlantic, Eastern, Central, Mountain, Pacific, Alaska or Hawaii) for your area. Then press ADJUST ▶ to move to the Daylight Savings Time option.

Daylight Savings Time

When Auto has been selected for the Clock Setting, you need to select the Daylight Savings Time (DST) option that your state uses. Press Adjust ▲ or ▼ to select Applies if your state or area uses DST, or Ignore if your state or area does not use DST. The clock time and day will be set automatically after tuning to a channel carrying the Extended Data Service (XDS) time data (usually your local PBS channel).

Hint: *Some XDS stations may display incorrect time settings for your area. If the XDS station you chose with Auto has the correct time, lock it in by then changing the Clock Setting to Manual. The time will not reset when you select a different XDS station.*

Time Menu: Setting The Timer

Timer On/Off

Figure 13

The timer can be turned to On or Off. When On, you need to select the time to turn On, the day to turn On, the device and the channel to display. At your preselected time, the timer will turn the TV On, and a message will be displayed, “Press a button for the TV to stay on”. Any button on the remote control must be pressed within 5 minutes, or the TV will turn itself Off.

Figure 13. Time Menu (Timer On/Off)

Set Day

Select the day or days that the TV will turn on automatically. Press ADJUST ▲ or ▼ to select Everyday, Mon-Fri (Monday through Friday), or the individual days of the week.

Set Time

Select the hour and minute, including AM or PM, when the TV is to turn on.

Press ADJUST ▲ or ▼ to slowly select the hour or press and hold ADJUST ▲ or ▼ to quickly select the hour, press ENT(er) to confirm and move to the minutes, press ADJUST ▲ or ▼ to select minutes then press ENT(er) to confirm and move to am or pm. You may then press ADJUST ▲ or ▼ to select am or pm and ENT(er) to confirm.

Device

Press ADJUST ▲ or ▼ to select the device to use when the timer turns on the TV. If the TV is already on, the timer will turn the TV to this selected device.

Channel

When Antenna A, Antenna B, or Antenna DTV is the selected device, you may select any memorized channel. Press ADJUST ▲ or ▼ to select the channel and the TV will tune to this channel in memory when the timer turns it on. This includes sub-channels for Antenna DTV.

Captions Menu: Analog and Digital Captions

Captions Menu

Figure 14

Select Captions to perform the functions listed below. On analog channels (Antenna A or Antenna B), broadcasters can send either Standard or Text closed captioning. Standard Closed Captions follow the dialogue of the characters on-screen and display in a small section of the screen. Text Closed Captions often contain information such as weather or news and covers a large portion of the screen. On digital channels (Antenna DTV) broadcasters can send up to 6 different captioning selections. Each TV station may broadcast only one or two types of captions or none at all. The TV cannot decode Closed Captions received on Component 1 or 2 inputs, Input-DTV or MonitorLink.

Figure 14. Captions Menu

Analog Captions

The TV can display one of the following captions for Analog sources:

- CC1, CC2, CC3, or CC4 (Standard closed captioning signals).
- Text1, Text2, Text3, or Text4 (Text closed captioning signals).
- On if mute. Closed captions when mute. When selected, the standard closed captioning signal (CC1) will turn on/off by pressing the MUTE button on the TV remote control.
- Off. No closed captions.

IMPORTANT

When analog Text closed captioning is selected, a large black or gray box appears on your TV screen if no signal is broadcast.

Background

To make the analog closed captions easier to read, you can choose to display the background color as either black or gray behind the captions. If you use Closed Captions frequently, Mitsubishi recommends gray for the background to reduce uneven aging of the picture tubes.

Digital Captions

The TV can display one of the following Captions for Digital sources:

- Captions 1-6. Sent by broadcaster.
- On if Mute: Closed captions when mute. When selected, the captioning signal (Caption 1) will turn on/off by pressing the MUTE button on the TV remote control.
- Off - No closed captions.

Note: If the broadcaster is only sending analog captions converted to digital, then the analog captions settings apply.

Digital Settings

The Closed Captions provider selects Default options when sending digital closed captions. You may, however, select Custom option to customize the appearance. Digital settings do not apply to analog closed captions converted to digital.

Digital Channel Guide

Select ON to display the Digital Channel Guide automatically when changing channels and while viewing Ant-DTV. The Digital Channel Guide lists the channel and sub-channels, channel name and program title. The information is provided by the broadcaster, hence, it may not be available for all channels.

IMPORTANT

The content of captions is determined by the broadcaster. If your captions show strange characters, misspellings or odd grammar, it is not a malfunction of the TV.

Captions Menu: Digital Captions Settings

Appearance

Figure 15

Closed Captions provider selects the Default options when sending digital closed captions. You may, however, select the Custom option to override and customize Closed Captions appearance. These settings do not apply to analog Closed Captioning converted to digital.

Figure 15. Closed Captions Menu Appearance

Fonts

You can customize the text of digital captions by selecting the font of your choice. The available Font options are as follows:

- Default - Selected by the Closed Captions provider
- Font 1 - Monospaced font with Serifs
- Font 2 - Proportional spaced font with Serifs
- Font 3 - Monospaced font without Serifs
- Font 4 - Proportionally spaced without Serif
- Font 5 - Casual font
- Font 6 - Cursive font
- Font 7 - Small Capitals font

Size

You can also customize the text of digital captions by selecting your desired size of font. Large is the recommended font size.

Color

You can customize the text of digital captions by selecting the color of font. The available font colors are as follows:

- White
- Black
- Magenta
- Red
- Yellow
- Green
- Cyan
- Blue

Background

To make the digital closed captions easier to read, you can choose the background color. The available background colors are as follows:

- White
- Black
- Magenta
- Red
- Yellow
- Green
- Cyan
- Blue

NOTE: If you choose the same color for the fonts and background, Closed Captions will not be visible.

Opacity (Font)

You can customize the visibility of your fonts using the following categories:

- Transparent - See-through text to the TV program
- Translucent - TV program is visible behind the text
- Opaque - Solid color text; blocks the TV program
- Flashing - Text flashing in intervals

Background Opacity

You can customize the background for digital captions using the following categories:

- Transparent - See-through background to the TV program
- Translucent - TV program is visible behind the background
- Opaque - Solid background; blocks TV program
- Flashing - Background flashing in intervals

IMPORTANT

We recommend you use contrasting colors between captions and background. In particular, Black background with translucent opacity and White font are ideal.

Care must be exercised when selecting customized colors; your choice may change the legibility or readability of captions.

V-Chip Lock Menu: Passcode

V-Chip

V-Chip allows you to Block or Allow programs based upon rating signals sent by the broadcasting station. The TV comes from the factory with the V-Chip in the Off setting. You can turn the V-Chip on within the V-Chip Menu or you can use the V-CHIP button on the remote control to conveniently turn the V-Chip on or off. The factory preset is TV-PG for TV ratings or PG for movie ratings, allowing only programs rated TV-PG/PG or lower. You can change the blocking level to various TV ratings and lettered categories or movie ratings. After changing channels or devices, there may be up to a 5 second delay before the V-Chip lock takes effect.

Entry

Figures 16 and 17

You will see the screen shown in Figure 16 when you press V-CHIP on the remote control, or the first time you select the V-Chip Lock menu, or after you have canceled your passcode. To use the Lock, input a four-digit passcode with the number buttons on the remote control, then press ENT(er). You can delete a number and move back one space by pressing CANCEL. You can exit without inputting a passcode by pressing MENU or HOME.

After setting a passcode, the V-Chip Lock is active. The next time you select V-Chip Lock you will see "...enter your passcode" instead of "...enter a new passcode".

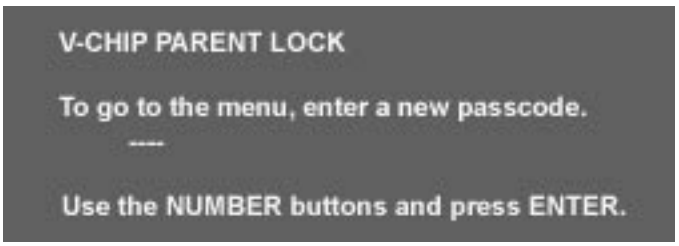
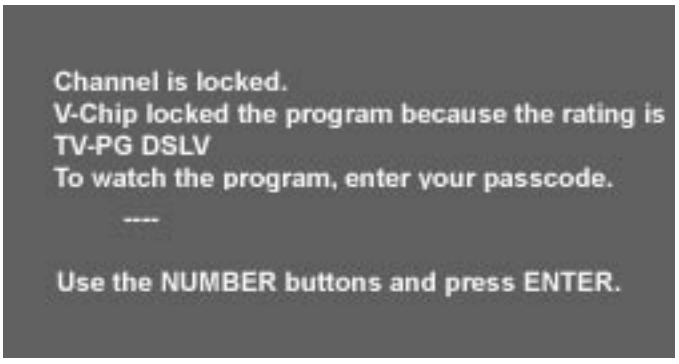


Figure 16. V-Chip Entry screen

To view a V-Chip blocked program or to watch the program during a scheduled lock time, you must enter your 4-digit passcode or change the channel to an unlocked program. Once you have entered the passcode, the V-Chip block or Lock by Time will remain released until the TV is powered off and then on again.


Channel is locked.
V-Chip locked the program because the rating is TV-PG DSLV
To watch the program, enter your passcode.

Use the NUMBER buttons and press ENTER.

Figure 17. V-Chip Passcode screen

V-Chip Start Time and V-Chip Stop Time

Figure 18

Select the times you would like the V-Chip to be active. By setting the V-Chip Start Time and V-Chip Stop Time to the same time, the V-Chip will be active 24 hours a day.

Press ADJUST ▲ or ▼ to slowly adjust the time, starting with the hours. Press and hold ADJUST ▲ or ▼ to quickly adjust the hours, press ADJUST ▶ to adjust the minutes.

Figure 18. V-Chip Menu, Start & Stop Time

IMPORTANT

If you forget your four-digit Passcode, see Appendix A.

V-Chip Lock Menu: V-Chip Definitions

V-Chip Signal Information

When provided by the broadcaster, V-Chip ratings can be used to control which programs can be viewed or will be blocked. When V-Chip ratings are sent, you will see the ratings when you change the channel or when you press the INFO button on the remote control. Both TV and Movie ratings will display. TV ratings apply to programs and movies developed for TV and may have supplemental blocking by content categories. Movie ratings use MPAA ratings for movies released in theaters.

V-Chip Exceptions:

1. V-Chip is effective only for programs viewed on Ant-A, Ant-B, Ant-DTV or from devices connected to inputs 1-3 or IEEE 1394 devices. It is not effective for programs viewed on devices connected to Component input, Inp-DTV or MonitorLink™.

2. Videotapes, laser discs and DVDs may not contain V-Chip rating signals. If they don't contain the V-Chip signal, V-Chip cannot block the program or movie.

3. Broadcasters are not currently required to include V-Chip rating signals at this time. If the broadcaster does not include the V-Chip rating signal, V-Chip cannot block the program.

TV Ratings:

Used with TV programs and Made-for-TV movies.

TV-Y Youth, for children under the age of 7.
TV-Y7 Youth, 7 years old and older. For children 7 years old and older.
TV-G General Audience. For the entire family to view.
TV-PG Parental Guidance. Parental Guidance is recommended, may not be suitable for some children.
TV-14 Adolescent 14 years old and older. Not recommended for children under the age of 14.
TV-MA Mature Audience. For adults only.

TV Rating	FV	D	L	S	V
TV-Y					
TV-Y7	X				
TV-G					
TV-PG		X	X	X	X
TV-14		X	X	X	X
TV-MA			X	X	X

Content Categories:

Used in association with the TV ratings above.

FV Fantasy Violence- applies to TV-Y7 only.
D Sexual Dialog- applies in different degrees to TV-PG and TV-14.
L Adult Language-applies in different degrees to TV-PG, TV-14, and TV-MA.
S Sexual Situations- applies in different degrees to TV-PG, TV-14, and TV-MA
V Violence (graphic or realistic)- applies in different degrees to TV-PG, TV-14, and TV-MA.

When you select a TV rating, you are selecting the least-restricted program level that can be viewed. As an example, if you select TV-PG, you are allowing programs rated TV-Y, TV-Y7, TV-G and TV-PG to be seen and blocking programs rated TV-14 and TV-MA. When you select a TV Content category, you will block all TV programs that have the same content category listing. As an example, if you select to block V (Violence) at the TV-14 level, you will also block any program that has the V category listing at the TV-PG rating level as well.

Movie Ratings:

Used with theater released movies and direct-to-video movies.

G General Audience- Designed for the entire family to view.
PG Parental Guidance- Parental Guidance is recommended, may not be suitable for some children.
PG-13 Parental Guidance 13 years old and older- Not recommended for children under the age of 13.
R Restricted- Restricted in the theater to 17 years old and older unless accompanied by an adult.
NC-17 No Children- Restricted in the theater to 18 years old and older.
X Adult- Designed for and restricted in the theater to adult audiences only.

When you select a Movie rating, you are selecting the least restricted program level that can be viewed. As an example, if you select a movie rating of PG-13, you are allowing movies rated G, PG and PG-13 to be seen and blocking movies rated R, NC-17, and X.

Programs Not Rated: Used for programs that are not rated like news, sports, weather, emergency bulletins, or movies such as those prior to or without MPAA Ratings. This does not include programs without V-Chip signals.

IMPORTANT

If you select to block programs that carry the V-Chip rating "Programs Not Rated," you may block News or Emergency Bulletins, when "None" or "NR" Not Rated V-Chip rating is included. Care should be used when blocking programming that is not rated.

V-Chip Lock Menu: Lock By Time and Front Button Lock

Lock By Time

Figure 19

Select Lock by Time to set the specific hours that the entire TV will be locked. During the Lock Time, you must use your passcode to view the TV.

1. Press ADJUST ▲ or ▼ to select ON or OFF then use ADJUST ▶ to move to the "Lock Time" option box.

2. Press ADJUST ◀ or ▶ to select Lock Time.

3. Press ADJUST ▲ or ▼ to select the time the lock will start.

4. Press ADJUST ▶ to move to the Unlock Time option box.

5. Press ADJUST ▲ or ▼ to select the time the lock will stop.

Setting the Lock Time and Unlock Time to the same time will make the Lock by Time active 24 hours a day.

Figure 19. V-Chip Menu, Lock by Time

Front Button Lock

Figure 20

Front Button Lock lets you disable controls on the front panel to prevent anyone from changing settings by accident.

Select ON to lock out the operations of the front panel button and select OFF to restore the operations of the front panel buttons.

If the front panel buttons have been locked and you misplace the remote control, you can restore the function of the front panel buttons by pressing and holding the MENU button on the front panel for more than 8 seconds. If the TV is already on, a message will be displayed to confirm the release of the Front Button Lock.

Figure 20. V-Chip Menu, Front Button Lock

A/V Settings Menu: Memory Reset, Settings, Video Mute, Black Enhancement, TV Speakers, Audio 2 Out

A/V Memory Reset

A/V Memory Reset allows you to select the device which will have the A/V Settings returned to the original factory settings. To return a device's memory to the original factory settings, select the device and then press ENT(er).

Audio/Video Settings

Figure 21

Each device has its own A/V memory. Select the device in A/V Memory Reset then select Audio or Video to adjust the device's individual settings. Press ENT(er), and the menu is removed and the individual settings are displayed.

Use ADJUST ▲ or ▼ to select the individual settings to be adjusted. Use ADJUST ◀ or ▶ to make the adjustment. For descriptions of the individual A/V settings see A/V Setting Descriptions, pages 54 and 55.

Figure 21. Audio/Video Menu, Settings

Video Mute

For Inputs 1 and 2, Components 1 and 2, Ant-DTV or PC, when Video Mute is On and no signal is being received, the TV will display a blue background. For Ant-DTV, and Inputs 1 and 2, Video Mute is always On.

After 4 minutes with Video Mute On and no signal, the TV will turn off.

IMPORTANT

If the TV turns off due to no signal, you will have to wait until the lamp cools (up to 1 minute) before the TV will turn On. (See page 15 for Power Indicator details.)

Black Enhancement

The contrast in dark scenes is enhanced for better picture quality. Brighter scenes will not be affected.

TV Speakers

This selection will turn on or off the TV's internal speakers. You may select Off when sending the sound through a separate stereo system or surround sound A/V receiver.

When NetCommand® is enabled, selecting the A/V Receiver icon from the Device Selection menu automatically turns Off the TV speakers. See page 36 for more information regarding this feature.

Audio 2 Out

Audio 2 Out allows you to listen to the audio from either the Main screen or the live PIP screen.

If you selected Audio 2 Out as the A/V Receiver source in the NetCommand Setup Wizard, then you will only be able to listen to the Main screen's audio.

Select Monitor Out to Audio/Video 1 for the A/V Receiver using Edit NetCommand to be able to listen to the PIP's audio through headphones The VCR used for recordings must be connected through the A/V Receiver.

IMPORTANT

To prevent damage from a sudden increase in volume, make sure the TV volume is set to low before setting speakers to ON.

A/V Setting Descriptions: Audio

NOTE: A slider will display on-screen for most settings. When the slider is displayed it has a numeric value, where 63 is the maximum, 31 is the mid-point and 0 is the minimum.

Audio Settings

NOTE: The effects of the Audio Settings of Bass, Treble, Balance and Surround affect the sound heard through the TV speakers only.

◊ **Bass**
Enhances or reduces low-pitch sound.

◊ **Treble**
Enhances or reduces high-pitch sound.

◊ **Balance**
Adjusts the level of sound between the left and right speakers.

◊ **Surround**
Creates simulated stereo and surround effects through the TV speakers. Your choices are:

- Off: No surround effects.
- Surround Sound: Your TV will create a simulated surround effect when watching a stereo program.
- Simulated Stereo: Your TV will create a simulated stereo effect when watching a non-stereo program.

◊ **Listen to** (for **Ant-A** and **Ant-B**)
Determines how your TV will receive a broadcast audio signal and play back the sound you hear.

Your choices are:

- Stereo: Default setting. The TV will play stereo broadcasts in stereo and mono broadcasts in mono. The word “Stereo” will be displayed when you tune to a channel broadcasting stereo.
- SAP (Second Audio Program): Additional monaural soundtrack that you cannot hear during normal TV viewing. The SAP signal might be related to the program you are watching, such as a soundtrack in a foreign language, or unrelated to the program you are watching, such as a weather report. If an SAP signal is broadcast, the letters “SAP” will be displayed when you tune to the channel.
- Mono: Reduces background noise, and should be used when receiving a weak stereo audio signal. All audio will be played mono with this setting.

◊ **Listen to** (for Ant-DTV and IEEE 1394 devices)
Determines what possible language you will hear. Your choices are:

- English
- French
- German
- Italian
- Portuguese
- Spanish
- Other

Listen to is not available for devices connected to the TV INPUTS.

◊ **Level Sound** (for Ant-A and Ant-B and analog devices)
Automatically equalizes the volume level of programs containing significant level differences from one segment to another (for example, regular programming to commercials). To receive the best fidelity with music programs, you can turn this setting to Off.

◊ **Level Sound** (for Ant-DTV and IEEE 1394 devices)
Automatically reduces loud passages and boosts soft passages to a more uniform loudness. When connecting to an A/V Receiver, set level sound to OFF and turn the TV speakers off to send full dynamics to the A/V Receiver.

This feature only works with Dolby Digital sources. Other digital audio formats do not offer this dynamic range control. In these cases, no effect will be heard when changing the level sound setting.

A/V Setting Descriptions: Video

NOTE: A slider will display on-screen for most settings. When the slider is displayed it has a numeric value, where 63 is the maximum, 31 is the mid-point and 0 is the minimum.

Video Settings for the Television

◊ **Contrast**
Adjusts the white-to-black level. Low contrast shows a variety of shades in darker images, while high contrast shows darker images more uniformly black and makes colors appear more vibrant. In most home lighting situations, a medium contrast looks best. High contrast is good for brightly lit environments.

◊ **Brightness**
Adjusts the overall brightness of the picture.

◊ **Sharpness**
Adjusts the picture's detail and clarity.

◊ **Color**
Adjusts the picture's color intensity.

◊ **Tint**
Adjusts the proportion of red to green.

◊ **Color Temp** (Color Temperature)
Adjusts how white images are displayed. Choose:

- Low 6500K or Low (for DTV): White images will have a warm cast to them. This adjustment is an average and can vary due to ambient room lighting, video scene brightness and the TV's age. The Low 6500K represents the 6500K industry standard for NTSC (non-DTV) pictures.
- Medium: White images will be balanced between the Low (warm) and High (cool) settings.
- High: White images will have a cool cast to them. This setting may provide the most realistic picture under bright lighting.

◊ **Video Noise**
Use to reduce minor noise (graininess) in the broadcast received on Ant-A and Ant-B or Inputs 1-3 and Component 1 and 2. Use standard with good quality signals.

◊ **Film Mode (Auto) - On or Off**
On is the automatic setting and will automatically detect and apply film decoding correction for signals that originated on 24 frames per second film cameras and then were converted for broadcast to 30 frames per second video.

When the original signals originated on 30 frames per second video cameras, the Video On setting will apply video decoding, the same as used with the Off setting. Try the Off setting when the TV seems to have difficulties and adds too many jagged edges to the images.

Film Mode is not effective for Ant-DTV, progressive scan (480p) devices, and high definition signals.

◊ **DefinEdge**
Selected image outlines are emphasized, resulting in sharper images, when On. The default is On. This feature is not available for Ant-DTV.

◊ **Black Border**
Provides a black border on the main TV picture (even when PIP/POP is being viewed) to mask edge disturbance from weak signals. Useful when using an antenna connection. This setting can be Off, Small or Large. Off is the default.

Video Settings for a Currently Viewed PC

◊ **Auto Position**
A press of ENT(er) will automatically center the position of the PC video. This can be used whether the PC video is on the main or PIP/POP screen.

◊ **HorizPosition (Horizontal Position)**
Manually adjust the horizontal position of the PC, either on the main or PIP/POP screen. This selection will override the Auto Position selection.

◊ **VertPosition (Vertical Position)**
Manually adjust the vertical position of the PC, either on the main or PIP/POP screen. This selection will override the Auto Position selection.

◊ **Fine Detail**
Manually adjust the picture quality of the PC, either on the main or PIP/POP screen. This selection will override the Auto Position selection.

◊ **PC Contrast**
Manually adjust the picture contrast of the PC when it is the PIP or POP.

Advanced Menu: Color Balance, Reset Color, Lamp Status

Advanced Menu

Figure 22

Figure 22. Advanced Menu .

Color Balance

Six colors (Magenta, Red, Yellow, Green, Cyan and Blue) are used to create color balance. You may adjust the intensity of the colors automatically or manually (PerfectColor™) or reset them to the default settings. Each TV input or device has a memory for PerfectColor.

Manual Color Correction (PerfectColor™)

Figure 23

Select Manual Color Balance then select PerfectColor and press ENT(er) to display the menu for manual color adjustment. Individual sliders for Magenta, Red, Yellow, Green, Cyan and Blue will be displayed. The sliders have a numeric value, where 63 is the maximum and the default setting for each color is 31 (center). Highlighted text will show which slider you are adjusting. Each active input can be individually adjusted.

Press ADJUST ▲ or ▼ to navigate between colors and ADJUST ◀ or ▶ to change the color slider settings.

The manual PerfectColor option is only available when Color Balance is turned to Manual.

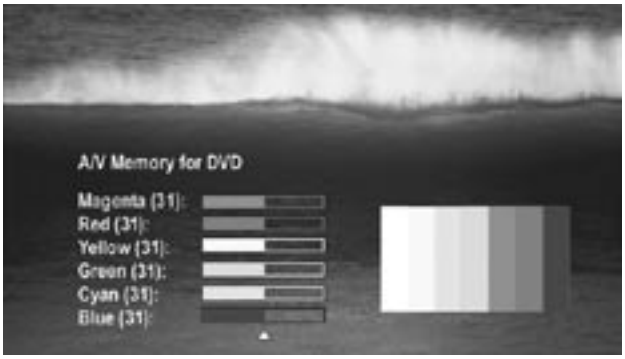


Figure 23. PerfectColor Menu, Manual Color Correction

Auto Color Correction

Set the Color Balance option to Automatic to optimize color automatically and continuously. Both PerfectColor and Reset Color options are grayed out and unavailable when Automatic is selected as the Color Balance option.

Reset Color

Select to reset the PerfectColor settings. Each active input can be individually reset.

Lamp Status

The light source for the WL-82913 is a lamp. At any time, you can confirm the hours the lamp has been used by selecting the Advanced menu. Elapsed time is automatically displayed on the right side of the menu screen.

When lamp life usage is close to 3,000 hours, the TV will display a warning message for one minute. This warning message will continue to display every time the TV is turned on. The purpose of this message is to advise you that the lamp may soon fail. This message will display until the lamp is replaced and the Lamp Status elapsed time is reset.

The actual life of the lamp in this television can vary, based on the lamp itself, the air temperature around the TV while it is operating and your viewing patterns. Warmer air or poor ventilation shortens the lamp life, as does turning the television on and off frequently.

To order a new lamp, please call (800) 553-7278. For instructions on removing the old lamp cartridge and installing a new one, please see Appendix B in book 1.

Chapter . . . 5

Special Features

NetCommand® Controlled Peer-to-Peer Connections.....58
NetCommand Remote Control Buttons: Device Menu, Guide....59
Recording on a Net Command Traditional VCR,
A/V Disc Search, Track List Screen.....60
Memory Card Playback.....61
PC Viewing.....63
Device Menu with NetCommand®.....64
Software Updates.....66
Operation of PIP and POP.....67
Display Formats.....68
TV Display Formats.....69
PC Display Formats.....70
Appendix A: Bypassing the V-Chip Lock.....71
Appendix B: Input Connection Compatibility.....73
Appendix C: Remote Control Programming Codes.....74
Appendix D: On-Screen Information Displays.....78
Appendix E: NetCommand® Specialized Device Keys.....79
Troubleshooting.....80
Using the System Reset Button.....84
Index.....86
Warranties.....89

NetCommand® Controlled Peer-to-Peer Connections

What is a Peer-to-Peer Connection?

Figure 1

A peer-to-peer connection allows the IEEE 1394 devices in your TV network to talk to each other without the further need of TV intervention once the peer-to-peer connection is established.

For example, the TV can setup a connection for an A/VDisc or DVCR that sends a recorded program to an IEEE 1394 monitor in another room. NetCommand will establish the connection between the two devices. Once the connection has been established, the TV can be turned off or used to watch another device. Recording from Ant-DTV to a DVCR is also a peer-to-peer connection. In this case the TV is one of the devices in the peer-to peer connection.

Analog or traditional (non-digital) devices can not be used for peer-to-peer connections.

Figure 1. Record to screen

Setting up a Peer-to-Peer Connection

A peer-to-peer connection is a current connection and cannot be setup as a delayed connection.

To establish a peer-to-peer connection:

1. Press CONNECT on the TV remote.
2. Press DEVICE on the remote control to see the source device choices.
3. Press ADJUST ◀ or ▶ to select the source device.
4. Press ENT(er) to confirm selection and return to the "Record to" section.
5. In the "Record to" section, review the destination device (example: DVHS) and duration. Change if necessary.
6. Press CONNECT a second time to start the session.

NOTE: Multiple peer-to-peer connections can occur simultaneously, sometimes with the same source device. Also, please note that peer-to-peer connections are NOT listed on the Record List screen.

Canceling a Current Peer-to-Peer Connection

When a peer-to-peer connection has been established, you can cancel the connection by highlighting the source device in the Device Selection menu. Confirm that the icon for the peer-to-peer connection is in the Connection Section next to the TV icon. Press the CANCEL key. The peer-to-peer connection will end and the destination icon will be removed. If there is more than one peer-to-peer connection for the same device, all of the connections will all be canceled.

NetCommand Remote Control Buttons: Device Menu, Guide

Device Menu

Pressing DEVICE MENU displays the Transport playback menu. A second press of this button will display the menus for NetCommand compatible devices. Menu access varies by device.

While watching a NetCommand compatible traditional IR controlled or an IEEE 1394 device, press DEVICE MENU once or twice to display the menu for that device.

When the Device Selection menu is displayed, and a HAVi IEEE 1394 device is highlighted, pressing the DEVICE MENU button will automatically display the menu for that device over the current source. The HAVi IEEE 1394 device does not need to be the current source. Some devices do not display menus. Check the Owner's Guide of the IEEE 1394 device if you are unable to see a menu.

When the menu for the device has been displayed, to navigate, press ADJUST ◀, ▶, ▲ or ▼ and ENT(er). For some NetCommand traditional devices you will also be able to use the number buttons and other additional buttons on the TV remote.

For traditional DVD players, the Device Menu is also known as the setup menu.

For Memory cards with JPEG, MP3 or WMA7 files, pressing DEVICE MENU displays the MEDIA SETUP menu or redisplays the Memory card screen if nothing else is displayed on screen.

Guide

GUIDE displays the on-screen programming guides.

- For NetCommand compatible satellite receivers and some cable boxes, GUIDE will display the on-screen programming guide for the receiver or cable box. Press ADJUST ◀, ▶, ▲ or ▼ and ENT(er) to navigate the displayed Guide. For NetCommand compatible satellite receivers, you may also be able to use the number or other additional buttons.

- For NetCommand compatible DVD players, GUIDE will display the DVD disc menu (not the setup menu).

- For Antenna DTV and IEEE 1394 devices, pressing GUIDE will display the Digital Channel Guide showing the sub-channels, or bitstreams for the current channel or device. For Antenna DTV only the sub-channels for the current channel are seen first. Press ADJUST ▲ or ▼ to see all the channels in memory.

- For IEEE 1394 devices with digital connections, the first press of GUIDE will display the TV's digital channel guide. The second press will display the program guide for the tuned device, such as a cable box or DBS.

- For compatible traditional VCRs, pressing GUIDE when the VCR is highlighted on the Device Selection menu, will change the VCR's input.

- For A/V Discs, pressing GUIDE will display the Track List screen.

- While the Device Selection menu is displayed with the control in the Audio Section and the A/V Receiver icon is highlighted then a press of GUIDE switches the A/V Receiver from analog audio to digital audio, and vice versa.

- For Memory cards, GUIDE displays the Thumbnail or Playlist menu.

Recording on a NetCommand® Traditional VCR, A/V Disc Search, Track List Screen

Recording on a NetCommand Traditional VCR

Pressing REC (record) button will function the same way as pressing the record button on the VCR's remote control or front panel.

To record directly from antenna or cable:

1. Press DEVICE on the TV's remote to display the Device Selection menu. Highlight the traditional VCR and press POWER to turn on the VCR. If necessary, press GUIDE to select the input the VCR is on, such as Antenna input (or line input).

2. Press ENT(er) to switch the TV to the VCR.

3. Select the correct channel for recording on the VCR and then press REC to start recording. You will need to manually stop the recording at the end of the program. OR...

4. Press the DEVICE MENU button to display the VCR's menu to schedule a delayed recording directly from antenna or cable.

To record from Ant-A, Ant-B, Ant-DTV or other devices, see NetCommand Controlled Recordings, pages 37-38.

A/V Disc Search

NetCommand is able to search to a specific time in a recording on an IEEE 1394 A/V Disc.

1. Start the playback of the desired track on the A/V disc.

2. Use the number buttons to enter the time code position of hours followed by minutes. For example, to enter one hour and twenty-two minutes (1:22) into the track, enter 1, 2, 2.

3. Press ENT(er) to skip to the time code position.

4. To cancel the request or to start over, press CANCEL instead of ENT(er).

Track List Screen

Figure 2

When viewing an A/V Disc, press GUIDE to display the Track List screen. The Track List screen provides a list of tracks for the A/V Disc, including the time and date the track was added, its duration and the title of the track. Tracks will be listed in time order with the most recent recording listed first. Track Lists vary in size. Press ADJUST ▲ or ▼ to navigate through the Track List. To play a track, select it on the list, then press ENT(er). To change pages, press CH ▲ or ▼ .

Figure 2. Track List screen

Once a track is selected, the first program begins to play. If there are multiple programs in the track, the names are displayed. Another program for the same track can then be selected. A track must be selected and playing for the multiple programs to be displayed. To delete a track, select it, then press CANCEL. If the track includes multiple programs, all of them will be deleted.

Memory Card Playback

Warning: Some memory cards available on the market are not properly certified for use by the Card Reader. If you experience problems with the reading of your file, please transfer your files to a card from a different manufacturer.

Memory Card Slots

Inserting a Memory Card

1. Insert a card into a matching card slot on the front of the TV. Be sure to use the correct card slot. Card 1 will accept MultiMediaCard™ and SD Memory Card. Card 2 will accept SmartMedia™. Card 3 will accept CompactFlash®. Card 4 will accept MEMORY STICK™. Cards up to 128mb, with a file format of FAT 16 (block size = 1024 or 2048) are supported.

   Normally the label side should be up, but if the card does not fit, try turning the card over and insert again. When properly inserted, the light next to the slot will light up.

2. Press DEVICE on the remote control to display the Device Selection Menu and then select the correct card slot from the list, using ADJUST ◀, ▶, ▲ or ▼.

3. The Memory Card screen (figure 3) will automatically display. Use the AUDIO button to switch from JPEG Picture Slideshow setup to MP3 or WMA7 Audio Playlist setup or use the VIDEO button on the remote to switch from the MP3 or WMA Audio Playlist setup to JPEG Picture Slideshow setup.

Don't pull the Memory Card out while it is playing.

For Slideshow, press PLAY.
For Thumbnails, press GUIDE.
To redisplay this menu or to setup, press DEVICE MENU.
For Playlist, press AUDIO.

Figure 3. Memory Card screen

4. On the remote control, press:

PLAY:	to start the slideshow or play audio.
GUIDE:	to display the JPEG Thumbnail menu or Audio track playlist.
DEVICE MENU:	to display the Media Setup menu (Figure 6).

Remote Control Buttons for Controlling the Playback

For JPEG Pictures Slideshow:

PLAY:	begins or resumes slideshow playback
PAUSE:	pauses or resumes playback while in the automatic advance mode.
FF:	skips to the next slide.
REW:	returns to the previous slide.
FORMAT:	single press rotates the slide 90˚. Multiple press continues to rotate the slide.
STOP:	Stop slideshow, return to Memory Card screen.

For MP3 or WMA Audio Playback

PLAY:	begins or resumes playlist playback.
PAUSE:	pauses or resumes playback.
FF:	skips to the next track/song.
REW:	skips to the previous track/song.
STOP:	Stop playback and returns to Memory Card screen.

Using the Picture Thumbnail Menu or Audio Menu

For JPEG Picture Thumbnail Menu:
Figure 4

1. Press GUIDE on the remote to display the JPEG picture Thumbnail menu.

2. Press ADJUST ◀, ▶, ▲ or ▼ to move the highlight to different images (CH up/down will change pages of the Thumbnail menu). Use REW to go to the first slide and FF to go to the last slide on the page.

3. Press FORMAT to rotate the selected image 90˚ (pressing FORMAT four times will rotate the image completely around to the original position).

4. Press PLAY to begin playback of the Slideshow from the selected image. The Thumbnail menu will be taken down.

Figure 4. JPEG Thumbnails

Memory Card Playback, continued

For MP3 or WMA7 Audio Menu:
Figure 5

1. Press GUIDE on the remote to display the Playlist.

2. Using ADJUST ▲ or ▼ to move the highlight to different tracks (CH up/down will change pages of the Playlist).

3. Press PLAY to begin playback. The Playlist menu will be taken down. An asterisk (*) will be next to the song currently playing.

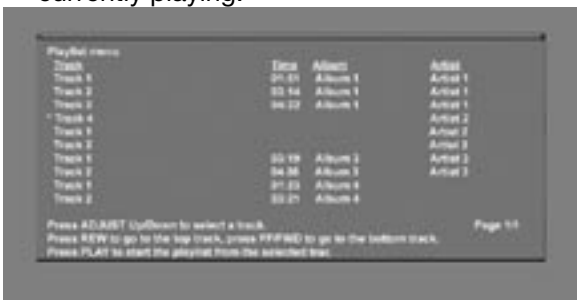


Figure 5. Audio Playlist

COMPATIBLE PICTURE OR AUDIO FILES:

For JPEG Pictures up to 128mb:

1. Still images recorded on digital cameras using the Exchangable Image File Format (EXIF) standard for digital still cameras and Design Rules for Camera File Systems (DCF).

   Some images opened and resaved on a computer may not playback or may not be able to display a picture in the thumbnail list. This is because the computer program that opened and resaved the images changed the file to an incompatible format.

2. Standard digital images with a maximum size of 5-megapixels for each image, or 2560 x 1920 pixels.

3. Full path file names can be no longer than 50 characters and must end in a .jpg extension. Not all 50 characters will display.

For MP3 or WMA7 Audio files:

1. Files recorded with sampling rates of 32 kHz, 44.1 kHz or 48 kHz.

2. Files recorded with fixed bit rates

3. File names with .mp3 or .wma extensions

NOTE: During MP3 or WMA7 audio playback, audio from the cards will be sent to the A/V Receiver as analog audio. Digital out is not available.

Media Setup Menu
Figure 6
Press DEVICE MENU at any time to display the Media Setup screen, where you can adjust the Slideshow Display, Frequency, Interval or Playlist Frequency.

For JPEG Picture Slideshow Setup

- For JPEG picture Slideshow playback, select Automatic or Manual advance. For manual operation, press PLAY or ENT(er) on the remote control to advance each slide.

- For automatic advance, select the frequency or number of times to show the complete slide show, Once, Twice or Continuously.

- For automatic advance, select the interval time each slide is shown, for example, 5 seconds, or 30 seconds.

For MP3 or WMA7 Audio Playlist Setup

- Select the frequency or number of times to play the complete playlist. Once, Twice or Continuously.

When you are finished, press DEVICE MENU on the remote control to redisplay the Memory card screen or press HOME to exit.

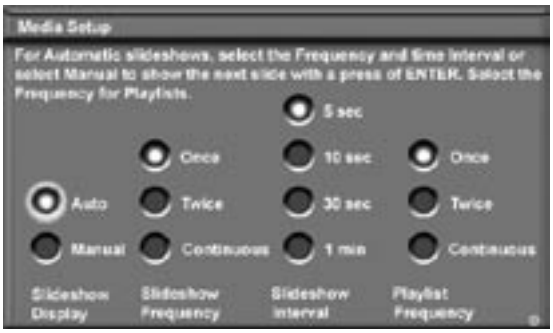


Figure 6. Media Setup Menu

IMPORTANT

JPEG images cannot be edited through the TV. Only name changes should be made on your PC to avoid file incompatibility problems.

MP3's must have at least 32 kHz sampling rate.

PC Viewing

PC Input

Figure 7

To display your PC screen on the TV, first, connect it to the TV's back panel (see book 1). You will then be able to select it through the Device Selection Menu. For the correct screen resolution (pixels), use the PC's Control Panel settings.

Your Mitsubishi TV can display resolutions from standard VGA (640 x 480) through PC 1080p (1920 x 1080). See Appendix B, in this book for more screen resolutions. The instructions below are for most PC's.

1. In the PC's "Start" menu, select "Settings".

2. Select "Control Panel".

3. Select "Display".

4. Choose the "Settings" tab.

5. Depending on your PC, either:

Use the Screen area slider or

Use the Screen Resolution slider to adjust the resolution.

You may need to restart the PC for this change to take effect.

IMPORTANT

The screen saver of your computer should be turned on and set to less than 5 minutes to prevent temporary image retention. The screen savershould also be set to a pattern. This will inform you that the TV is still turned on and adding hours to the lamp's elapsed time. If the TV 's Power is on, even when the screen appears dark, the lamp is still being used.

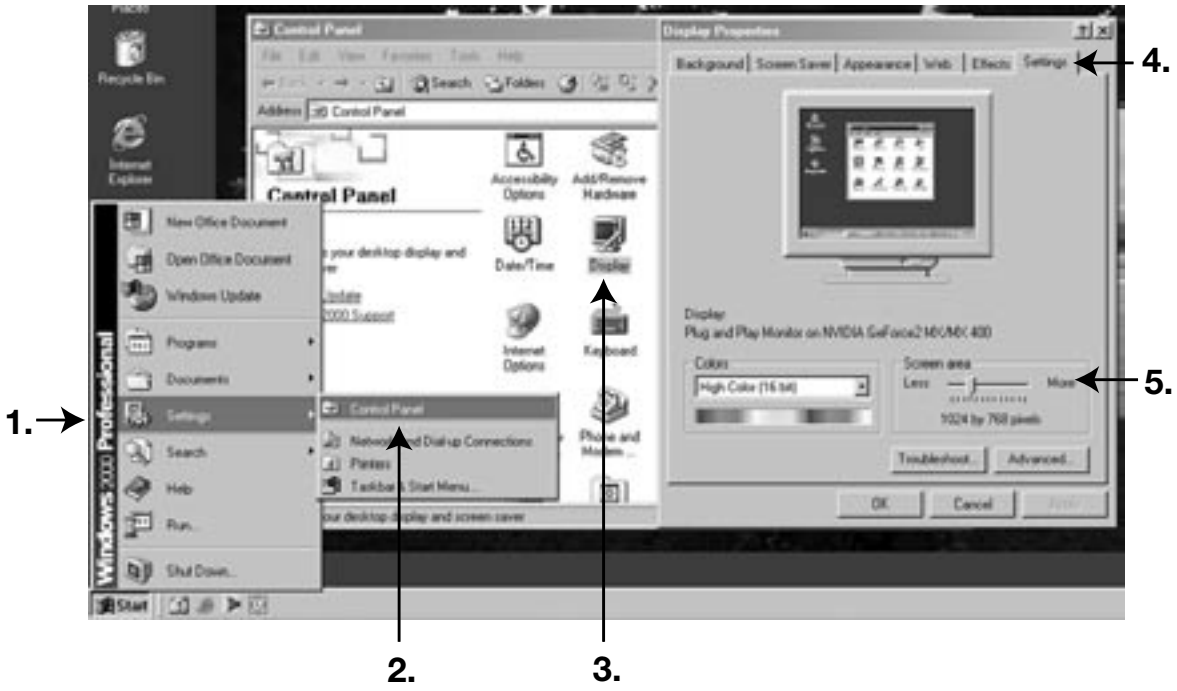


Figure 7. PC resolution XGA selection

Device Menu with Net Command®

NetCommand Compatible Traditional Devices (Analog)				
When Device Selection Menu is Displayed and the Device is Highlighted (Yellow Outline)				
REMOTE CONTROL BUTTON	A/VReceiver	VCR	DVD	Cable Box/DBS
POWER	Power On/Off (toggle)	Power On/Off (toggle)	Power On/Off (toggle)	Power On/Off (toggle)
DEVICE MENU	n/a	n/a	n/a	n/a
GUIDE	Changes between Digital and Analog audio	Changes VCR inputs	n/a	Changes antenna inputs (RCA model DTC-100 only)
FORMAT	n/a	n/a	Changes output between interlaced and progressive	Changes output between HD and SD select models

IEEE 1394 and HAVi Devices (Digital)				
When Device Selection Menu is Displayed and the Device is Highlighted (Yellow Outline)				
REMOTE CONTROL BUTTON	Tuner/ Cable box/DBS	A/VDisc	D-VCR	Amplifier
POWER	Power On/Off (toggle)	Power On/Off (toggle)	Power On/Off (toggle)	Power On/Off (toggle)
DEVICE MENU	Device Menu (if HAVi compaible), AV/C control panel (if provided)	Device Menu (if HAVi compatible), AV/C control panel (if provided)	Device Menu (if HAVi compatible), AV/C control panel (if provided)	Device Menu (if HAVi compatible), AV/C control panel (if provided)
GUIDE	n/a	n/a	n/a	n/a
FORMAT	n/a	n/a	n/a	n/a

Device Menu with Net Command®, continued

When Net Command® Compatible Traditional Device is Viewed or Played				
Remote Control Button	A/V Receiver	VCR	DVD	Cable/DBS
CH up/down	n/a	Channel up/down	Skip Forward/Backwards Chapter or Track	Channel up/down Page up/down when guide showing
VOL up/down	Volume Up/Down	n/a	n/a	n/a
MUTE	Mute On/Off	n/a	n/a	n/a
0-9 (digits)	n/a	number functions	number functions	number functions
QV	n/a	n/a	n/a	Last Channel Recall
DEVICE Menu	n/a	1st press Transport Menu, 2nd press Setup Menu display	1st press Transport Menu, 2nd press Setup Menu display	Setup menu display or Action function
HOME	n/a	n/a	n/a	n/a
ENTer	n/a	n/a	Enter or select	Enter or select
CANCEL	n/a	Counter Reset	Exit or return	Exit or return
GUIDE	n/a	n/a	Disc menu display	Channel Guide
ADJUST	n/a	up/down left/right	n/a	up/down left/right
PLAY	n/a	Play	Play	n/a
STOP	n/a	Stop	Stop	n/a
RECORD	n/a	Record	n/a	n/a
REW/REV	n/a	Rewind/Reverse	Reverse	n/a
FF/FWD	n/a	Fast Forward or Fast Play	Fast Play	n/a

When IEEE 1394 and HAVi Device is Viewed or Played				
Remote Control Button	Cable/DBS	A/VDisc	VCR	Amplifier
CH up/down	Channel up/down Page up/down when HAVi guide showing	Skip Forward (30 seconds) Skip Backwards (12 seconds) Page up/down (when track is displayed)	Index search forward/reverse	n/a
VOL up/down	n/a	n/a	n/a	Volume Up/Down
MUTE	n/a	n/a	n/a	Mute On/Off
0-9 (digits)	number functions	Search by time (when followed by ENTer)	n/a	n/a
QV	Last Channel Recall	n/a	n/a	n/a
DEVICE Menu	Device Menu (if Havi compatible)	1st press Transport Menu, 2nd press Setup Menu display (if Havi compatible)	1st press Transport Menu, 2nd press Setup Menu display (if Havi compatible)	Device Menu (if Havi compatible)
HOME	Exit menus/displays	Exit menus/displays	Exit menus/displays	Exit menus/displays
ENTer	Enter or select	Enter or select	Enter or select	Enter or select
CANCEL	Cancel function	Cancel function	Cancel function or Counter Reset	Cancel function
GUIDE	Digital Channel Guide	Track or Program list display	Digital Channel Guide	n/a
ADJUST	up/down left/right	up/down left/right	up/down left/right	up/down left/right
PLAY	n/a	Play	Play	n/a
STOP	n/a	Stop	Stop	n/a
RECORD	n/a	n/a	n/a	n/a
REW/REV	n/a	Reverse or Slow Play	Reverse or Slow Play	n/a

Software Updates

From time to time, Mitsubishi may offer software updates to expand the features or operation of this TV. When these updates are available they will be announced on our web site, Mitsubishi-tv.com. If you return your Owner's registration card, with your model and serial number, you may receive written notification of available software updates.

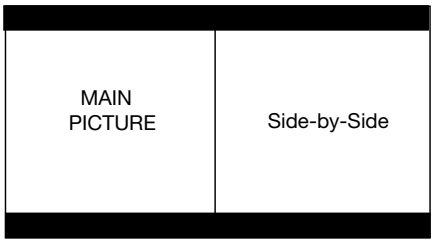
IMPORTANT

Do not attempt to update the software of this TV with software or cards that are not provided by or authorized by Mitsubishi Digital Electronics America, Inc. Non-authorized software may damage the TV and will not be covered by the warranty.

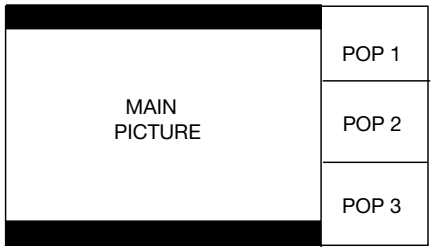
Operation of PIP and POP (PIP not available with Ant-DTV)

Picture-In-Picture (PIP) and Picture-Outside-Picture (POP) features allow you to view programming in different ways. While watching the main TV picture, you can display programs from other channels and other inputs. You can display a single PIP, side-by-side pictures, three POPs, or nine POPs Activating the PIP and POP. For PC's, Side-by-Side is the only available PIP/POP option.

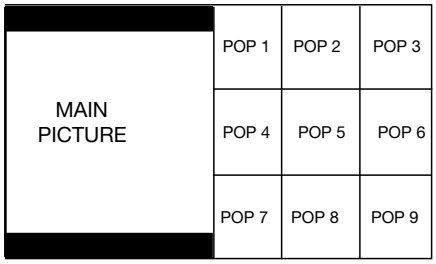
Press PIP/POP to activate the PIP/POP option. With each press of the PIP/POP button on the TV remote control (within 3 seconds of each other), the PIP/POP will cycle through the following display options.



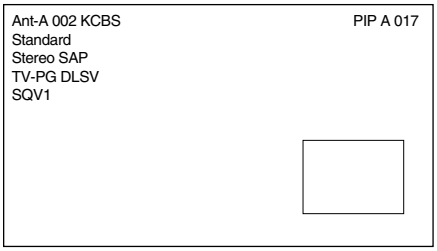
- **POP (TV or PC)** side-by-side pictures



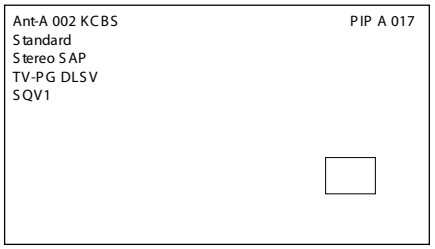
- **3 POP**



- **9 POP**



- **PIP large**



- **PIP small**

- **PIP/POP:** off

To turn PIP/POP off, wait at least 10 seconds, and press PIP/POP. The next time you activate PIP/POP, the last used PIP/POP option will be displayed

Changing PIP/POP Device

Press PIP DEVICE to change the PIP or POP picture source device. A menu similar to the Device Selection menu will be displayed.

Changing PIP/Side-by-Side Channels

Press PIP CH to scroll up and down through memorized channels on Ant-A and Ant-B.

Exchanging Program Images

Press EXCH to exchange the main picture and the PIP/POP picture.

Moving PIP Image

If no menus are on the screen, press ADJUST ▲ ▼ ◀ ▶ to move the PIP display anywhere on the main screen.

Automatic POP Switching

When automatic POP switching is active, the TV will cycle through memorized channels on Ant-A or Ant-B or strobe pictures from other A/V components in the POP display. Press PAUSE to pause or restart automatic POP switching.

Selecting POP "Live" Image

Press ADJUST ▲ ▼ ◀ ▶ to select a different POP "live" image (automatic POP switching must be paused.)

Freeze the PIP and Side-By-Side Picture

Press PAUSE to freeze the PIP and side-by-side images. Press PAUSE again to return to a "live" image.

IMPORTANT

Side-by-Side cannot show the same channel or device on both sides.

ANT-B is not available as the PIP, POP or Side-by-Side while ANT-A is the main image.

DVI or MonitorLink devices are not available as PIP, POP or Side-by-Side but can be the main picture.

PIP/POP is not compatible with signals from ANT-DTV, IEEE 1394 or Memory cards.

Display Formats

This is a wide screen TV (also known as a 16:9 TV). This shape reflects the new types of images available from HDTV and many DVDs. There are still many older style narrow screen images (called 4:3 aspect ratio) you will encounter. While there will never be a perfect solution for displaying a narrow image on a wide screen, Mitsubishi offers several display formats to choose from.

Press FORMAT on the TV remote control to cycle through the available display formats.

Last used format for each device will be used when you return to that device.

Note: Not all formats are available for PIP/POP.

PIP/POP Formats			
	Standard	**Expand**	**Narrow**
PIP	**X**	**X**	**X**
Side by Side	**X**	**X**	
3 POP	**X**		
9 POP	**X**		

Definitions:

480i Signals: Traditional interlaced signals from or through Ant-A, Ant-B, Inputs 1-3, Component 1 & 2, and Inp-DTV.

480p Signals: Progressive scan DVD signals through Component 1 & 2 and Inp-DTV.

1080i and 720p Signals: High definition signals received through Component 1 & 2 and Inp-DTV.

SD 4:3: Standard definition narrow screen format signals from Ant-DTV and IEEE 1394 devices.

SD 16:9: Standard definition wide screen format signals from Ant-DTV and IEEE 1394 devices.

HD: High definition wide screen format signals from Ant-DTV and IEEE-1394 devices.

Anamorphic (also listed as "Enhanced for Widescreen TVs): These DVDs are recorded in a special way to properly show high-resolution images on 16:9 TV sets in the standard mode. This is the recommended choice.

Non-Anamorphic (also listed as 4:3, 1:33:1, Letterbox or Full Screen): These DVDs are recorded for use with traditional shaped TVs. They may be full screen (on 4:3 or 1:33:1) which crops movies to fit the narrow TV, or Letterboxed which adds black top and bottom bars.

This information may or may not be listed on the DVD case. Some DVDs support both types of recordings.

- **Standard:** This is the full screen format. HDTV signals usually use this format. This format is useful to display Anamorphic DVDs that have 1.78:1 or 1.85:1 aspect ratios. Anamorphic DVDs that have a 2.35:1 aspect ratio will still display black bars at the top and bottom, but will show the entire image correctly. Narrow (4:3) images will be stretched evenly from side to side. Available for all signals.

- **Expand**: This will enlarge the picture to fill the screen, cropping off some of the image at the top and bottom. This is useful to reduce the letterbox top and bottom bars of non-anamorphic DVD. Available for analog 480i, 480p and digital SD 4:3 signals only.

- **Zoom:** This will enlarge the picture, cropping off some of the image at each side and top and bottom. This is useful to remove or reduce the black top and bottom bars on anamorphic DVDs with a 2.35:1 aspect ratio. Available for analog 480i and 480p signals only.

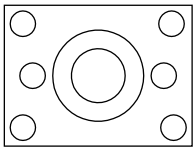
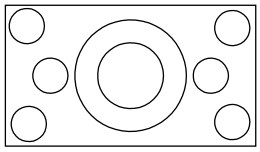
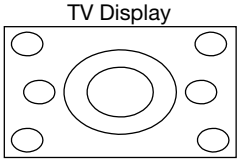
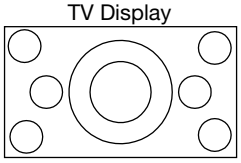
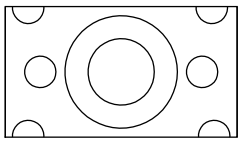
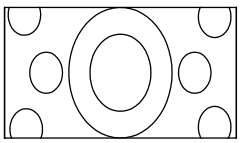
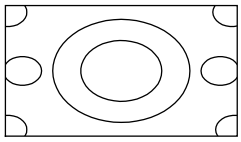
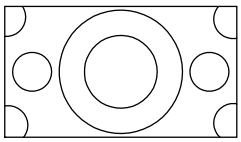
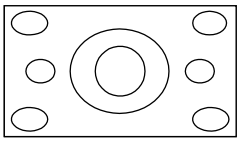
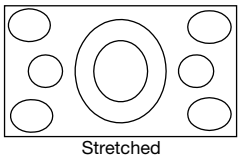
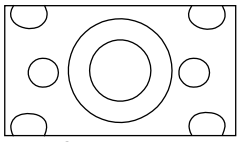
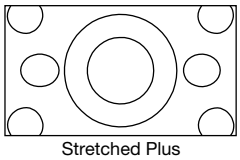
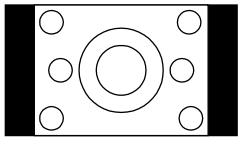
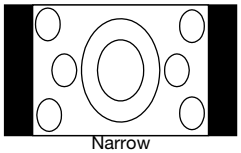
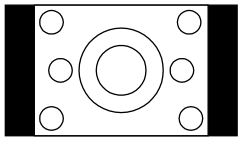
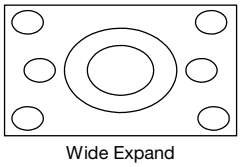
- **Stretched**: This format will stretch a narrow (4:3) image across the screen, however, there is less stretch in the center than the sides. This will allow the entire narrow image to be displayed across the screen with less distortion than seen in the Standard format. Available for analog 480i and 480p signals only.

- **Stretch Plus:** Similar to stretch mode, however to minimize distortions on the side, the picture is expanded to crop off portions of the top and bottom. Useful when no important information is shown at the top and/or bottom of the screen. Available for analog 480i and 480p signals only.

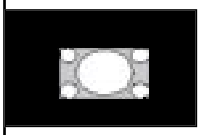
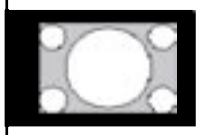
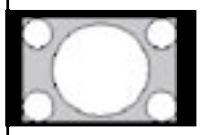
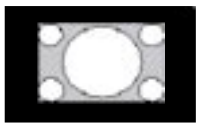
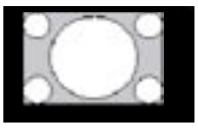
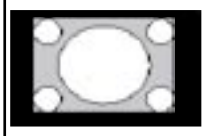
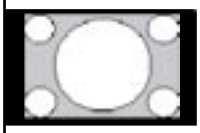
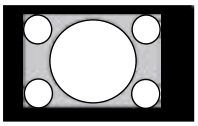
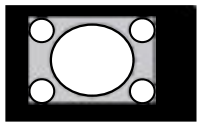
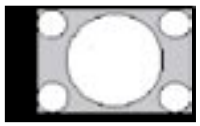
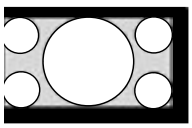
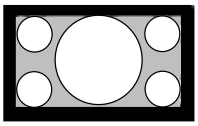
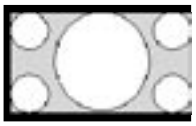
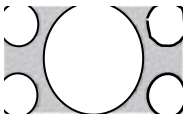
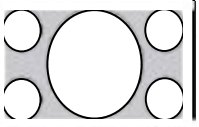
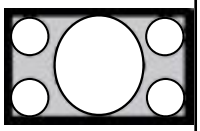
- **Narrow:** This format will display narrow (4:3) images in their original shape, and add stationary black side bars to fill the screen. Available for 480i, 480p and digital SD 4:3 signals only.

- **Wide Expand:** Enlarges the picture, cropping some of the image on both sides. This Expand format is useful to remove or reduce black side bars on HD broadcasts of 4:3 images with black bars. Available for analog 720p, 1080i, digital SD 16:9 and digital HD signals.

TV Display Formats

Original Signal Non-anamorphic or Digital 4:3	Original Signal Anamorphic or Digital 16:9
	
TV Display	TV Display
	
Standard (not recommended, distorted)	Standard (recommended)
	
Expand (recommended for letterboxed)	Expand not available for digital SD 16:9, HD or analog 1080i (not recommended, distorted)
	
Zoom not available for digital SD 4:3 (not recommended, distorted)	Zoom not available for digital SD 16:9, HD or analog 1080i (recommended for anamorphic 2.35:1)
	
Stretched not available for digital SD 4:3 (recommended for standard broadcast)	Stretched not available for digital SD 16:9, HD or analog 1080i (not recommended, distorted)
	
Stretched Plus not available for digital SD 4:3 (recommended for standard broadcast)	Stretched Plus not available for digital SD 16:9, HD or analog 1080i (not recommended, distorted)
	
Narrow (recommended for occasional use)	Narrow not available for digital SD 16:9, HD or analog 1080i (not recommended, distorted)
	
Original HD or SD 16:9 with side bars in broadcast	Wide Expand available only for digital SD 16:9, HD and analog 1080i (recommended to remove side bars)

PC Display Formats

Signal Format	Original Pixel Count	Standard	Zoom 1	Zoom 2 (Zoom 1)	Zoom 3	Zoom 4 (Zoom 2)
VGA	640 x 480	 640 x 480	800 x 600	960 x 720	 1120 x 840	 1280 x 960
SVGA	800 x 600	800 x 600	920 x 690	 1040 x 780	 1160 x 870	 1280 x 960
XGA	1024 x 768	1024 x 768		1152 x 864		1280 x 960
SXGA	1280 x 1024	 1280 x 1024 Standard		 1240 x 992 Reduce 1		 1200 x 960 Reduce 2
PC 720p	1280 x 720	1280 x 720		 1493 x 840		1706 x 960
WXGA	1365 x 768	 1365 x 768		 1536 x 864		 1706 x 960
PC1080p	1920 x 1080	 1920 x 1080 Standard		 1813 x 1020 Reduce 1		 1706 x 960 Reduce 2

Appendix A:
Bypassing the V-Chip Lock:

Lock Bypass Instructions Have Been Filed for Future Reference

Bypassing the V-Chip Lock

After you set the lock, you need your passcode to view a V-Chip locked program, view the locked TV, cancel the lock, or enter the V-Chip Lock menus.

If you forget your passcode, you can view the locked TV without entering your passcode. This is done by pressing the number 9 and QV buttons on the TV remote control at the same time, when your passcode is requested. This process temporarily unlocks the TV.

When entering the V-Chip Lock menu, this process deletes your old passcode and prompts you to enter a new passcode. Pressing HOME at this time will cancel the entire passcode.

Bypassing Front Button Lock

If you have misplaced the remote control, you can bypass the front button lock by pressing and holding the MENU button on the front panel for more than 8 seconds.

IMPORTANT

Cut along the dotted line and file bypass instructions in a safe place for future reference.

IMPORTANT

When changing or deleting your passcode, you must use the remote control included with this TV. You cannot use a Mitsubishi remote control from another component or a "universal" remote.

This page intentionally blank

Appendix B: Input Connection Compatibility

Component-1 and Component-2 Inputs

These inputs are compatible with component video signals from standard DVD players and other equipment sending a standard NTSC component video signal (480i). These inputs are also compatible with newer DVD players sending 480p and are compatible with signals from digital TV receivers that send 720p and/or 1080i component video signals.

PC Input

This input will accommodate most computers capable of supporting a VGA monitor. The refresh frequency (or vertical sync) is 60 Hz. Compatible display resolutions are:

VGA	640 x 480	PC720p	1280 x 720
SVGA	800 x 600	WXGA	1365 x 768
XGA	1024 x 768	PC1080p	1920 x 1080
SXGA	1280 x 1024		

INP-DTV

This input is compatible with most standard DTV and satellite receivers with component video (YPbPr) outputs. Compatible DTV signals are SDTV 480i/480p, and HDTV 720p/1080i. Please check the DTV receiver specifications before connecting.

This input is compatible with some DTV receivers using RGB with “separate H and V sync”. Compatible DTV signals are SDTV 480i, 480p, and HDTV 720p/1080i. Industry standards for DTV RGB signals (systems, synchronization, timing, and signal strengths) are not currently established. These inputs will not be compatible with all DTV receivers that offer RGB, HV outputs. RGB signals with less than 5 cables are not compatible.

If your DTV receiver offers both DTV component video signals and DTV RGB, HV signals, we suggest you use the DTV component video signals. Check the DTV receiver specifications before connecting.

Input Levels and Timing with Component Video

EIA - 770.1 and EIA - 770.2 Standard Levels & Timing

Y = 1.0Vp-p (includes sync) 75-Ohms

Pr = 700mVp-p, 75-Ohms (can also receive signals from outputs labeled R-Y and Cr)

Pb = 700mVp-p, 75-Ohms (can also receive signals from outputs labeled B-Y and Cb)

Input Levels and Timing When Used With HD Component Video Signals

EIA - 770.3 Standard Levels and Timing

Y = 1.0Vp-p (includes sync) 75-Ohms
Pr = 700mVp-p, 75-Ohms
Pb = 700mVp-p, 75-Ohms
H = Not Used
V = Not Used

Input Levels and Timing When Used With RGB, HV Video Signals

G = 700mVp-p (no sync), 1Vp-p (with sync) 75-Ohms
R = 700mVp-p, 75-Ohms
B = 700mVp-p, 75-Ohms
H = 4Vp-p+/-1.0v, 2.2k-Ohms
V = 4Vp-p+/-1.0v, 2.2k-Ohms

NetCommand® IEEE 1394 & HAVi System Compatibility

This television is designed to conform to IEEE 1394 AV/C and HAVi Software standards in effect at the time of development. This exciting new networking and control technology is designed to provide high-performance digital connections and product control, making products easier to use.

At the time of development,the only products available for compatibility testing - the Mitsubishi and JVC DVHS VCRs. These D-VHS VCRs are fully compatible with this TV.

As other manufacturers produce products that use IEEE 1394 AV/C and HAVi, they will be responsible for the development of their products to meet the standards of the technology, as well as compatibility testing with other products. Mitsubishi cannot be responsible for their efforts, and therefore cannot promise compatibility with these other products. Any compatibility problems with other manufacturers products should be brought to the attention of those manufacturers.

Appendix C:Remote Control Programming Codes

To Program the Remote to Control Other Brands of Audio and Video Products

1. Move the slide switch at the top of the remote to the product you want to control.

2. Press and hold the POWER button on the remote control.

3. Enter the first three digit code listed for your equipment, and then release the POWER button on the remote control.

4. Point the remote control at the equipment and press the POWER button. If the equipment responds, the remote control is properly programmed to operate the equipment. If the equipment does not respond, repeat steps 2-4 with the next three digit code listed in step 3 for your equipment.

A/V Receivers

Mitsubishi	010, 011, 012, 013, 014, 360
Admiral	220
Aiwa	225, 226, 241
B & K	352
Bose	351
Denon	234, 235, 236, 245, 246, 359, 361
Fisher	204
Gerrard	213
Harman Kardon	215, 223, 242, 362
Jensen	223, 229
JVC	232, 233
Kenwood	200, 208, 289
KLH	363
Koss	357
Magnavox	227, 228
Marantz	224, 350, 360
McIntosh	216
Nakamichi	206, 217
Onkyo	209, 214, 240, 247
Optimus	203, 227, 231, 230
Panasonic	219, 218, 221
Parasound	356
Philips	223, 248, 290
Pioneer	205, 207
Polk Audio	353
Quasar	219, 218, 221
RCA	203, 205, 227, 231,230
Sansui	203, 211, 239
Sharp	234, 237
Sherwood	354, 355
Sony	222, 249, 364, 365
SoundDesign	238
TEAC	212, 213, 210, 211
Technics	221, 218, 219
Venturer	358
Victor	232, 233
Yamaha	201, 202, 243, 244

Cable Box

ABC	124
Archer	125
Cableview	105
Citizen	122, 105
Color Voice	128, 129, 130, 106, 107
Comtronics	128, 129, 130 ,106, 107
Curtis	112, 113
Diamond	124, 125
Eagle	129
Eastern	134
GC Brand	105
GE	112, 113
Gemini	122, 143
General Instrument /Jerrold	119, 120, 121, 122, 123 124, 125, 126, 127
Hamlin	112
Hitachi	103, 124
Macom	103, 104, 105, 108
Magnavox	128, 129, 130, 106, 107, 133, 138
Memorex	130
Movietime	105
Oak	102
Panasonic	114
Paragon	117
Philips	128, 129, 130, 106, 107, 133, 138, 131
Pioneer	101, 116
Pulsar	105
RCA	115
Regal	112
Regency	134
Rembrant	105, 138
Samsung	105
Scientific Atlanta	112, 113, 194
Signature	119, 124, 125, 126, 127, 120, 121, 122
SL Mark	105, 101
Sprucer	105,
Starcom	119, 124, 125, 126, 127, 120, 121, 122
Stargate	105
Teleview	101, 105
Tocom	135, 136

Cable Box, continued

Toshiba	104
Unika	125
United Artists	102
United Cable	119, 124, 125, 126, 127, 120, 121, 122
Universal	122
Videoway	106
Viewstar	129, 130
Zenith/ Drake Satellite	117, 100

Appendix C: Remote Control Programming Codes

DVD Players

Mitsubishi	003
Aiwa	261, 274
Apex	266, 283
Bose	286
Denon	250, 273
Ferguson	251
GE/RCA/Proscan	51, 256
Harman Kardon	282, 288
Hitachi	270
JVC	257
Kenwood	271, 289
Mintek	285
Next Base	284
Normande	251
Onkyo	267, 280
Oritron	263, 268
Paite	262
Panasonic	250
Philips/Magnavox	258, 253, 272, 290
Pioneer	252
Saba	251
Sampo	263
Samsung	261
Sanyo	275
Sharp	260
SMC	275
Sylvania	264
Sony	254, 278, 279
Thompson	251
Toshiba	253, 287
Venturer	281
Vialta	277
Wave	269
XWave	269
Yamaha	250, 272, 276, 287
Zenith	259

Satellite Receivers /DBS/DTV

Mitsubishi	
HD/Satellite Receiver	006, 173
Echostar/Dishnetwork	175, 82, 183, 188
Express Vu	175
GE	176
Gradient	186
Hitachi	173, 181, 184
Hughes	173
Maganavox	171, 172
Panasonic	174
Philips	171, 172
RCA/Proscan	176, 179, 180,185
Samsung	192
Sony	177
Star Choice	173
Toshiba	170, 189, 190, 191, 173
Uniden	171, 172
WebTV	187

VCRs

Mitsubishi	001, 002, 060, 067, 068, 061, 062
Admiral	055
Aiwa	047, 052
Akai	049, 034, 035, 036
Audio Dynamic	031
Bell & Howell	025
Broksonic	040, 046
Canon	043, 045
Citizen	026
Craig	025, 049, 026
Curtis Mathes	065, 044, 047
Daewoo	063, 021, 044, 078
DBX	030, 031
Dimensia	065
Emerson	023, 038, 039, 040, 045, 046, 062, 063
Fisher	025, 028, 029, 027
Funai	047, 046, 040,054
GE	065, 044, 079, 053
Go Video	057, 069, 070, 071
Goldstar	026
Gradiente	054
Hitachi	043, 065, 020,047
Instant Replay	044, 043
Jensen	059
JVC	030, 031, 054, 076, 077
Kenwood	030, 026, 031
LXI	047, 026, 020, 027, 028, 025, 029
Magnavox	051, 043, 044
Marantz	030, 031
Marta	026
Memorex	044, 029
MGA	060, 067, 068, 061, 062
Minolta	020, 065
Multitech	067, 047, 024
NEC	030, 031, 054
Olympic	044, 043
Optimus	048, 041, 055, 026
Orion	046, 040
Panasonic	043, 044, 041, 042
Penney	044, 020, 065, 025, 030, 031
Pentax	020, 031, 065
Philco	051, 044, 047, 043, 046, 040, 063
Philips	051, 043, 044
Pioneer	043
Proscan	065, 020, 043, 044, 051, 066, 021, 022, 053
Quasar	041, 042, 043, 044
Radio Shack	053, 044, 025, 056, 029, 060, 047
RCA	053, 065, 020, 043, 044, 049, 051, 066, 021, 022

VCRs

Realistic	044, 025, 056, 029, 060, 047
Samsung	057, 022, 024, 053
Sansui	046, 040, 072
Sanyo	025, 029
Scott	021, 022, 024, 029, 060, 067, 068, 046, 040
Sears	025, 026, 027, 028, 020
Shaintom	037
Sharp	055, 056
Signature 2000	047, 055
Singer	037
Sony	048, 049, 050, 073, 074, 075
SV2000	047
Sylvania	051, 043, 044, 047
Symphonic	047
Tashiro	026
Tatung	030, 031
TEAC	030, 047, 031
Technics	041, 042, 043, 044
Teknika	044, 047, 032
Toshiba	021
Totevision	026
Vector Research	031
Wards	055, 056, 029, 064, 026
Yamaha	025, 030, 031
Zenith	064,026

Appendix C: Remote Control Programming Codes

After entering the correct codes in each position of the remote control, use the slide switch to select which product will respond when an operational button is pressed. If the TV position has not been programmed to control NetCommand and you enter a code from the A/V Receiver chart while the slide switch is set to TV, the volume and mute functions change to match the A/V receiver. This is useful when using an A/V Receiver with the TV all the time. In all other cases, only one of the below devices is allowed for each slide switch position.

TV position (when the remote has not been programmed to operate NetCommand):

- TV
- A/V receiver (volume and mute only)

Cable/DBS/DTV position:

- Cable box
- Satellite receiver
- DTV receiver

VCR position:

- VCR
- DVD
- LD Player

DVD position:

- DVD
- LD Player
- Cable box
- VCR

Audio position:

- A/V receiver
- Cable box
- Mitsubishi CD player [If you have a Mitsubishi A/V receiver, the audio position may be used in conjunction with selected Mitsubishi CD players. Your audio position must be programmed to 010].

IMPORTANT

Some manufacturers may change their products, or they may use more than one remote control system. If this is the case, your remote control may not be able to operate your VCR, DVD, cable box, satellite receiver, or A/V receiver.

IMPORTANT

If the remote control has not been programmed to operate NetCommand and slide switch is set to TV when you enter an A/V receiver code, VOLUME and MUTE will control the A/V receiver rather than the TV. To return volume and mute control to the TV, set the slide switch to TV, press and hold POWER and enter 000.

Appendix C: Remote Control Programming Codes

When your remote control has been programmed to operate another manufacturer's product, the function performed on each layer can vary. The most common functions are:

VCR			
•POWER	•PLAY	•PAUSE	•FF/FWD
•CHANNEL up/down	•REC	•STOP	•REW/REV
•Mitsubishi VCRs will be compatible with additional buttons			
Cable Boxes and Satellite Receivers			
•POWER (on some models)	• CHANNEL up/down		
• 0-9 Number Buttons (on some models)			
A/V Receivers			
•POWER	•VOLUME	•MUTE	
Mitsubishi A/V Receivers			
•Direct Input Selection Buttons -use number buttons, SQV, and QV (on some models)			
Mitsubishi CD Players (not all functions for all models)			
•PLAY	•FF/FWD	•REW/REV	•PAUSE •STOP
DVD and Laser Disc Players (not all functions for all models)			
•POWER •PLAY	•ARROW up/down/left/right (on some models)	•PAUSE	•CANCEL (on some models)
•MENU •STOP		•REW/REV	•ENTER
•0-9 Number Buttons (on some models)			
Mitsubishi Satellite Receiver			
•POWER •GUIDE	•0-9 Number Buttons	•QV	•SQV (FAV)
•ENTER •CHANNEL up/down		•INFO	•HOME (EXIT)
•ADJUST up/down/left/right		•SUB (-)	•MENU (ACTION)

IMPORTANT

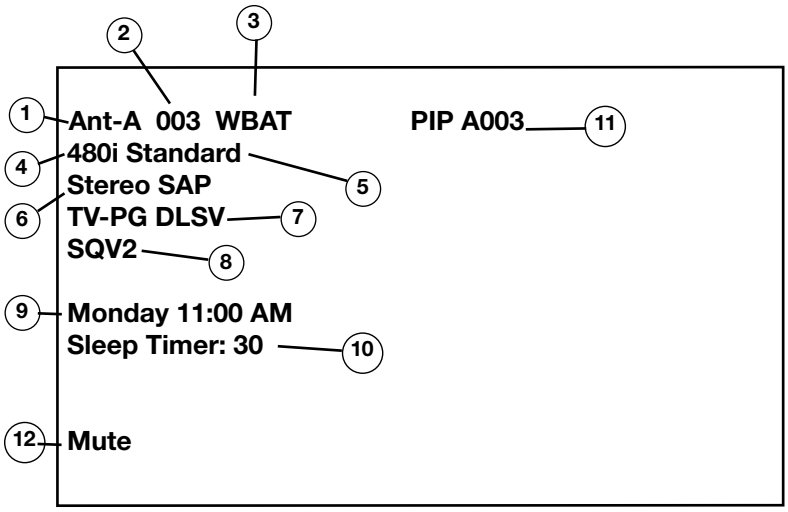
The remote control may return to its initial setting when the batteries are changed. You may need to reprogram.

Appendix D: On Screen Information Displays

When you turn on the TV, change Devices, change Channels or when you press the INFO button on the remote control the TV will display the current status. Below are the most common displays; please note that seldom or never do all of the different status indicators appear at the same time.

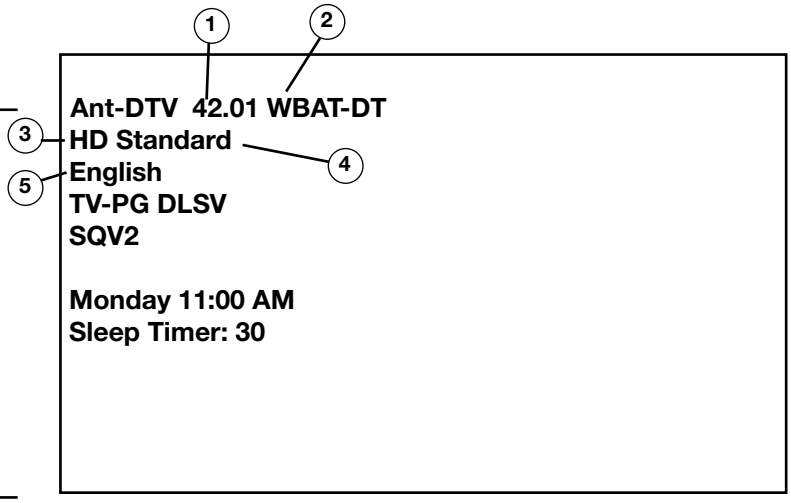
Analog Antenna or Devices

1. Antenna or Device being viewed
2. Analog channel being received: If antenna being viewed
3. Analog channel name (only if manually programmed)
4. Signal Type being received
   Possible:
   Ant-A, Ant-B or Input 1-3 – 480i
   Component 1, 2 – 480i, 480p or 1080i
   Inp-DTV
5. Screen format being used
   Possible:
   Analog 480i/480p signals – Standard, Expand, Zoom, Stretch, Stretch Plus, Narrow
   1080i signals - Standard, Wide Expand
6. Stereo and/or SAP being broadcast
7. V-Chip Ratings
8. Channel in SuperQuickView bank 2
9. Day and Time
10. Sleep Timer remaining time
11. PIP source and channel
12. Mute (On)



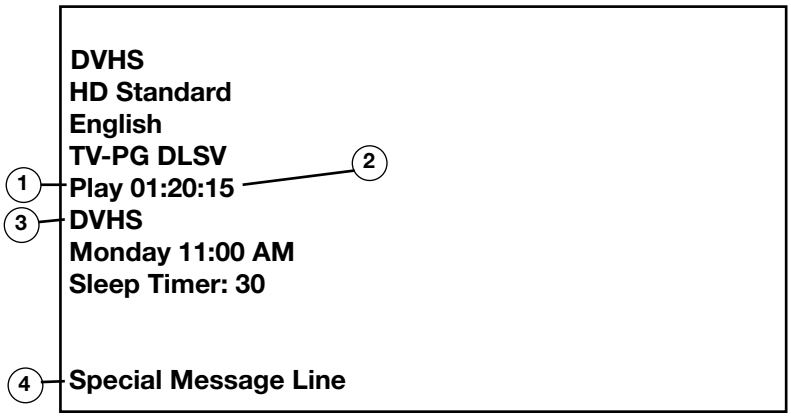
Digital Antenna

1. Digital Major and Sub channel number
2. Digital Channel Name (only if broadcast)
3. Signal Type being broadcast/received
   Possible: SD 4:3, SD 16:9 or HD
4. Screen format being used
   Possible:
   SD 4:3 - Standard, Expand, Narrow
   SD 16:9 or HD - Standard, Wide Expand
5. Language being broadcast



Digital IEEE 1394 Device

1. Status of D-VHS VCR or IEEE 1394 device
2. Counter of D-VHS VCR
3. Media type in D-VHS VCR
4. Special message line
   (shows only when a special message is needed; may be seen with Analog signals)



Appendix E: NetCommand® Specialized Device Keys

A/V RECEIVER	CABLE or DBS	VCR	DVD	LEARNING SCREEN CHECKBOX NAME	Function	Name on TV Remote
X	X	X	X	Power*	Power On or Power On/Off	POWER**
X	X	X	X	Power (Off)*	Power Off	POWER**
X				Volume Up	Volume Up	VOL ▲
X				Volume Down	Volume Down	VOL ▼
X				Mute	Mute	MUTE
X				Analog to Digital*	Analog/Digital Switch	GUIDE**
X				Digital to Analog*	Digital/Analog Switch	GUIDE**
X				Input (1-7)	AVR Input Select	Automatic (when device is selected)
	X	X		Channel Up	Channel Scan Up	CHAN ▲
	X	X		Channel Down	Channel Scan Down	CHAN ▼
	X			Recall	Last Channel Recall	QV
	X		X	Guide	Guide	GUIDE
	X	X	X	Adjust Up	Arrow/ move Up	ADJUST ▲
	X	X	X	Adjust Down	Arrow/ move Down	ADJUST ▼
	X	X	X	Adjust Left	Arrow/ move Left	ADJUST ◀
	X	X	X	Adjust Right	Arrow/move Right	ADJUST ▶
	X	X	X	Enter	Enter/Select	ENT
	X	X	X	Menu	Device Menu or Setup Menu	DEVICE MENU
	X	X	X	Cancel	Cancel or Exit	CANCEL
	X	X	X	Info	Status Information Display	INFO
	X			Page Up	Guide Page Up	CHAN ▲ ***
	X			Page Down	Guide Page Down	CHAN ▼ ***
	X	X	X	Play	Play	PLAY
	X	X	X	Stop	Stop	STOP
	X	X	X	Forward	Fast Forward/Fwd Search	FF
	X	X	X	Rewind	Rewind/Reverse Search	REW
	X	X	X	Pause	Pause	PAUSE
	X	X	X	Record	Record	REC
	X	X	X	Enter (digits)†	Enter for channel numbers	ENT
	X	X	X	Low Speed Out*	LowSpeed 480i out	FORMAT**
	X	X	X	High Speed Out*	Hi Speed 480p/1080i out	FORMAT**
	X	X	X	1,2,3,4,5,6,7,8,9,0	1,2,3,4,5,6,7,8,9,0	1,2,3,4,5,6,7,8,9,0
	X	X		Input	Input Change	GUIDE**
		X		Sub channel separator‡	Digital Sub channel	CANCEL
			X	Chapter +	Chapter Skip Forward	CHAN ▲
			X	Chapter -	Chapter Skip Reverse	CHAN ▼

** These are paired functions (e.g. Power and Power Off). When the original remote control uses a single button for both functions, learn only the first of the paired functions.*

† If there are two Enter keys, learn the Enter key used for channel selection here. The ENT button on the remote sends the correct IR code when digits are entered.

‡ Learn the subchannel separator if a special key is used to add a separator (dash or dot) in a digital channel. Press the CANCEL button on the remote to add the separator

*** This function is performed only when the Device Selection Menu is displayed and the device icon is highlighted.*

**** Channel Up/Down as Guide Page Up/Down happens only after pressing GUIDE and returns to channel functions after pressing ENT(er) or CANCEL.*

Problem		Possible Solution
1.	The TV remote control does not work.	• Check that the batteries are installed correctly. • Check that the selected switch is set to “TV”. • Be no further than 20 feet from the TV when using the remote control. • Program the remote control to operate the TV (Appendix C).
2.	The TV takes several seconds to respond.	• It is normal for digital channels to take longer to tune in. • Press ENT(er) after a channel number to avoid delays. • Use the three digit number, i.e 002 for channel 2. • Enter 5 digits for digital channels.
3.	You cannot access a channel.	• Use number keys instead of CHANNEL up/down. • Be sure the channel you want to view is in memory. • Check that the TV is turned to the correct device or antenna for that channel, by pressing the DEVICE button. • Make sure the V-Chip lock is off. • If tuned to Ant-DTV, have physical channel in memory.
4.	On-screen displays appear each time you change a function.	• This is part of normal TV operation.
5.	You cannot program the TV to turn on automatically (timer function)	• The TV may be locked. • The clock may not be set.
6.	There is no sound even when the volume is turned up.	• Check audio source in Device Menu. • Check to see if the MUTE button is on. • The TV’s “Listen to:” setting may be set to SAP. • Check that the “TV Speakers” setting is On in the Audio/Video menu.
7.	Correct time is lost.	• The unit is set to Low Power mode and has been powered Off for more than 48 hours
8.	The Power/Timer indicator light flashes for over a minute when the TV is being powered On.	• The unit is set to Low Power Mode. Set to Standard Power mode for quicker power On.
9.	Lamp indicator light is a constant red.	• Turn the TV off for at least 2 minutes. Turn back on. If light is still red, the lamp has failed, replace it. See Book 1, Appendix B for lamp replacement information.
10.	Lamp indicator light is a constant yellow.	• Lamp’s elapsed time has exceeded 3,000 hours. Purchase a new lamp. See Book 1, Appendix B for lamp replacement information.
11.	Lamp indicator light is a flashing yellow.	• Lamp cover door is open or lamp cartridge is not secure. See Book 1, Appendix B for lamp replacement information.
12.	Status indicator light is a constant yellow.	• Operating temperature or room temperature has exceeded proper levels. Clean the TV’s dust filter or cool the room. See Book 1, Appendix C for dust filter information.
13.	Status indicator light is a constant red.	• Service is required. Contact your dealer or a Mitsubishi Authorized Service Center to arrange for a service evaluation Listings of Mitsubishi Authorized Service locations can be obtained from our web site, www.mitsubishi-tv.com or by calling 1-800-332-2119.
14.	NetCommand unable to learn specific device keys.	• Device does not use IR format for remote control signal. ITT and RF formats cannot be learned. • Room lighting may affect the signal. Have the remotes very close (6 inches or less) to the TV during Learning. • If using a Mitsubishi remote control make sure slide switch is not set to TV position. • Some but not all device key functions can be learned by NetCommand. For example, POWER and PLAY may be learned, but other functions may not. • The signal from the remote control may not be strong enough. Insert fresh batteries and try Learning again.
15.	You have forgotten your lock passcode.	• See Appendix A, Bypassing the V-Chip Lock.
16.	PIP does not display a picture.	• Make sure the V-Chip lock is off. • Not all inputs can be displayed as a PIP.
17.	There is a large black or gray rectangle on the screen.	• The TV’s analog closed captioning has been set to “text” mode in the Captions menu. Turn off because there is no text information being broadcast.

Problem		Possible Solution
18.	The sound does not match the screen picture.	• NetCommand® is setup incorrectly. • The TV's "Listen to:" setting may be set to SAP. • If using stereo or A/V receiver speakers, check their input selection. • If using stereo or A/V receiver, check that AUDIO 2 of MONITOR OUTPUT on TV's back panel is connected to the A/V receiver and AUDIO 2 is the setting in NetCommand.
19.	You cannot see a picture when playing a VHS tape.	• Display the Device Selection menu and select the correct VCR. • Check your VCRs owner's guide for further trouble shooting.
20.	V-Chip is not working.	• Make sure that V-Chip is On. • If V-Chip Hours are currently set to disable the V-Chip lock, the V-Chip will not block programming.
21.	The TV will not turn on after being plugged in.	• If green light on front panel is blinking, wait for at least one minute for the light to turn off, then press Power again.
22.	TV functions do not respond to the remote control or to front panel control and will not Power Off.	• Use the System Reset button as explained at the end of this section.
23.	When viewing a stopped VCR, white lines are rolling on the screen.	• Turn off video mute for the VCR. • Begin playing the tape. • Change the VCR input to the antenna input.
24.	TV turned itself Off and the light on the Front Panel started to blink.	• Momentary power fluctuation caused the TV to turn off to prevent damage. Wait for the green light to stop flashing and turn On again. • If the TV does not stay turned On, use the System Reset button. If this happens frequently, obtain an AC line power conditioner/surge protector.
25.	When a Device is selected from the Device Selection menu, the screen is blue (no signal source).	• Make sure the selected device is turned on. • From the Edit NetCommand® menu select Review setting. Verify that the inputs are actually connected to the TV . If they are not, either change the physical connections on the back panel, or select the Change setting on the Edit NetCommand menu to change the TV NetCommand's settings for the connection.
26.	The Device does not respond to button presses from the remote.	• Remote has not been setup for NetCommand® use. • The incorrect manufacturer was selected during setup. Select the Change setting from the Setup menu and then the device to display the manufacturer selection. Change if necessary. • The device is not supported and keys have not been learned. • The requested function is not supported by NetCommand. Verify that the function is supported or keys are learned. • The IR emitter is incorrectly placed. Make sure the IR emitter is facing the IR sensor in the device. • The IR emitter is not plugged into the IR emitter Output NetCommand. • The IR emitter is facing the TV screen, causing double signals. Be sure that the IR emitter cannot send to the TV.
27.	The A/V Receiver is the selected audio source but there is no sound.	• Check to see if the A/V Receiver power is turned on. After the power is turned on, redisplay the Device Selection menu and press ENTer to allow NetCommand to correctly select the A/V Receiver input. • Setting does not match device being used. From the Setup Menu select Review setting. Check the Review screen to see if the A/V Receiver inputs and device correspond to the actual connections on the A/V Receiver. If they do not match, either change the actual connections, or select Change on the Edit NetCommand menu to change the device on the Connection screen.
28.	The TV Speaker icon or A/V Receiver icon is grayed out and not selectable.	• Select the Change setting from the Edit NetCommand menu, and then select the device (for example VCR). Once the Connection screen is displayed, check if the audio checkbox is selected for the TV input and/or AVR input.
29.	Devices are grayed out in the Device Selection menu or the PIP Selection menu.	• A recording is in progress requiring the use of Monitor Out. Cancel the recording to select the device. • Digital devices (Ant-DTV ,1394 devices and Memory cards) cannot display in the PIP or POP.

Problem		Possible Solution
30.	Cannot see the A/V Receiver menu.	• The A/V Receiver is not connected to any input of the TV. To check the A/V Receiver menu temporarily plug into an unused input of the TV. Then select Review from the Setup Menu, turn the input On to view the A/V Receiver menu.
31.	Screen is black when trying to view Antenna DTV or IEEE 1394 device.	• The PerfectColor™ color balance has been incorrectly set. Use the Advanced menu to reset the color balance.
32.	A program recorded on your TV is distorted when played on a 4:3 TV.	• TV was set to Anamorphic when program was recorded. Record programs in Cropped mode if playing back on a 4:3 TV.
33.	The REC button is not working, or, on the Transport menu the record key is grayed out and not available.	• The device does not support recording, such as a DVD player. • Recordings can not be initiated from the Transport menu when using an IEEE 1394 device. Pres REC instead. The Record menu displays allowing setup of a recording.
34.	Excessive digital artifacts.	• The IEEE 1394 cable is too long (15 feet between devices is the maximum length). • There may be a slow device in the middle of the IEEE 1394 network. Move the slow devices to the end so that connections for faster devices do not pass through them.
35.	Cannot see a picture from a DV Camcorder.	• Go to Device Selection menu and select analog connection. • Connect the DV Camcorder to analog input (for example,Input-3). Select Setup from the main menu, then Change. At the Change screen, select the camcorder. On the Name screen, check Analog Connection. Select the device and on the following screen, select which analog input was used, and check audio and/or video.
36.	DVCR analog/digital problems.	• If the tape is currently playing but no picture displays, you may have a mismatch of the media with the display. Press the DEVICE key to display the Device Selection menu. Press ENT(er) for the DVCR device. From the pop up box, if digital is selected, try analog, or if analog is selected, try digital.
37/	D-VHS recordings for digital cable have drop-outs (loss of picture or sound), or no playback.	• Digital cable signals on IEEE 1394 can exceed the data rate standards supported by D-VHS.
38.	There is no audio and video from the IEEE 1394 device.	• The device is not turned on - turn the device power on. • No media (tape or disc) is inserted into the device. • The media is blank (has no recording). • The play command failed - Try pressing play again on the device's remote control or front panel. • The device is already in use (for example: the device is currently recording). • The source is copy-protected or violates copy protection. • The device's digital video signal is not supported by the TV, such as DV video, common with camcorders. Use analog connections instead, if available. • The device is not an audio/video device. • Too many other devices are already communicating over IEEE 1394. Remove or stop some devices and try again.
39.	The IEEE 1394 device cannot be selected.	• IEEE 1394 devices and Ant-DTV cannot be displayed in the PIP. • The device may be busy, either recording or a peer-to-peer connection has been established. Cancel the recording or peer-to-peer connection.
40.	The IEEE 1394 Device is not listed in the Device Selection menu.	• The device is unchecked in the Review screen. Select the Setup menu, then select Review setting. Verify the device is checked. • The IEEE 1394 plug is disconnected or loose. • The IEEE 1394 Device has not been powered On. Turn on. • The device has not been discovered. • The device is not an Audio/Video device
41	DEVICE MENU button does not display a menu.	• The IEEE 1394 device does not provide a menu. • The TV does not support this type of 1394 device. See page 35.

Problem		Possible Solution
42.	All IEEE 1394 devices disappear.	• When connecting the devices, there must always be a device at the end. The connected devices must not be in a loop that returns to the TV. • Disconnect all the cables and devices from the TV. Replace them one by one to locate the problem device or cable. • Use System Reset (front control panel).
43.	Cannot rediscover a deleted IEEE 1394 device	• The device has been disconnected. Plug it in. • The device is unchecked in the Review screen. Go to Setup in the Main menu, then select Review. Check the device. • Remove IEEE 1394 plug. Go to the Edit NetCommand menu. Delete the IEEE 1394 device. Plug the device in again so it can be discovered again.
44.	An IEEE 1394 device has been plugged in but does not appear in the Device Selection menu (not discovered).	• The IEEE 1394 connection to the TV or another device is loose. • The IEEE 1394 device is not powered on. • A device in the IEEE 1394 chain is not powered on - turn on all devices. • The device discovery can take as long as a minute to initiate. • IEEE 1394 cable is too long (maximum of 15 feet between devices). • The IEEE 1394 device uses an incompatible protocol and will not be discovered
45.	Cannot record to or from the IEEE 1394 device, including Dub recordings.	• To initiate a recording to IEEE 1394 device press the REC key. The Record menu displays allowing setup of the recording. • The source device for the recording is not powered on. • When dubbing, the destination device for the recording is not powered on. • The wrong media, (analog tape for digital recording, or digital tape for the analog recording) is in the device. • Either the program is copy protected, or if there are multiple subchannels and one of the programs (not necessarily the program requested) is copy protected. • The program has already been recorded once and the copy protection only allows one recording. • Unapproved source device for copy protected material. • The recording device can not decode the copyright signal included in the signal source (try another device if available). • The playing device (for dubbing) does not support copyrighted material. • Source for recording is copyrighted. • Too many IEEE 1394 devices in network. Insufficient bandwith available. Disconnect unused devices. • Source Device has higher speed (S 400) than record device. If possible, reverse devices, play in the slower device and record in the faster device.
46.	Cannot control the IEEE 1394 device from the Transport Menu.	• Device may not support the command. • Selected function is gray (such as Record for a DVD, which does not support the Record function).
47.	TV is not responding, after pulling out a Memory card during playback.	• Press STOP or wait until playback is complete before removing Memory card.
48.	TV can't play or stop a Memory Card.	• NetCommand was not set up. Without NetCommand enabled, you can only use ENTER to play and CANCEL on the TV remote to control the Memory cards.
49.	Can't see a thumbnail picture in the JPEG menu, or can't see a track/song name in the Playlist menu.	• File does not meet file standards for playback.

Using The System Reset Button

If the TV doesn't respond to either the remote control or the front panel controls or will not power off, press the SYSTEM RESET button on the front panel with a pointed item such as the point of a ball point pen or end tip of a paperclip.

The TV will turn off and the green led will flash quickly for about one minute. When the green led stops flashing, you may turn on the TV again. The changes you made while the TV was most recently on, before you used the SYSTEM RESET button may lost, however, the changes you made previously are not lost. Only those changes since the last power On may be lost when the system reset button is pressed. All other settings are retained.

Notes

Index

A

A/V Disc Search 60
A/V Receiver, adding in NetCommand
- Edit Menu 23-25
- Initial Setup 21

A/V Settings
- Menu 42, 53
- Descriptions
  - Audio 54
  - Video 55

Accessories for TV 8
Advanced Menu 42, 56
Antenna Menu 42, 44-45
Audio/Video Menu 42, 53
Audio Setting Description 54
Audio 2 Out 53
Automatically Adding IEEE 1394 Devices 34

B

Black Enhancement 53
Bypassing the V-Chip Lock 71

C

Cancel
- Current Recordings 40
- Menu functions 10, 17
- NetCommand functions 18

Captions Menu 42, 48-49
- Analog 48
- Appearance 49
- Digital 48-49

Channel
- Memorization 44
- Memory 44
- Name 44
- Selection, 10, 38

Color
- Balance 56
- Correction 56

Connecting
- Devices to the TV's back panel, *See Book 1*
- IEEE 1394 Devices 32

Copy-Protected Material 40

D

Device Menu with Net Command 59, 64-65
Device Selection Menu 36-37
Devices in NetCommand
- Adding 21, 26-29
- Changing 30
- Deleting 30

Display Formats 68

E

Edit NetCommand®, Adding an A/V Receiver 23-25
Edit NetCommand®
- Adding
  - A/V Receiver 23-25
  - Device 26-29
- Changing Devices 30
- Deleting Devices 30
- Menu screen 43

Energy Mode 43

F

Formats Display
- PC 70
- TV 68-69

Front Control Panel
- Buttons 10
- Memory Card 11

G

Guide Button, with Net Command 59

I

Icon Position 43
IEEE 1394
- Automatically Adding 33-35
- A/V Disc Search 60
- Compatibility 35
- Input/Output 11, 33
- Track List Screen 60

Important Safeguards 4-5
Indicator Lights 10
Initial Setup, NetCommand 19, 21-22
Input Connection Compatibility 73

L

Language, Menu Selection 21, 43
Lamp Status 56
- *See also* Appendix B, Book 1

M

Main Menu Choices 42
See also individual Menu names
Menu System, Controls 17
Memorize Channels 44
Memory Card
- Playback 61
- Slots 11, 61

N

Name Channels 44

NetCommand®
Adding Devices, 20, 23- 29
Changing Devices 30
Deleting Devices 30
Editing 23-30
Initial Setup 19, 21-22
Peer-to-Peer Connections 58
Recording 39
Remote Control Buttons 16, 18, 59
Specialized Device Keys 79

O

On Screen Information Displays 78
Operation of PIP and POP 67

P

PC Viewing 63
Peer-to-Peer Connections 58
PerfectColor™ 56
PIP
Device Selection Menu, 37
Operation 67
Problems and Solutions 80-83
Programming the Remote to Control NetCommand® Devices 16

R

Record List Screen 40
Recording, NetCommand® Controlled 39, 60
Remote Control Functions
Audio Button 38
Channel Selection 10, 38
with NetCommand 18
Operation and Care 13
Overview 12
Programming Codes 74-77
Sleep Timer 38
Transport Menu 37
Video Button 38
Reset Color 56

S

Safeguards, Important 4-5
Setup Menu 42, 43
Sleep Timer 38
Software Updates 66
Special Features 9
SQV Channels 45
System Reset Button 10, 84

T

Time Menu 42, 46-47
Setting the Clock, Manual or Auto 46
Setting the Timer 47
Track List Screen 60
Transport Menu 37, 43
TV
Accessories 8
Display Formats 69
Speakers 53

V

V-Chip Lock Menu 42, 50-52
Entry 50
Front Button Lock 52
Lock By Time 52
Passcode 50
Rating Definitions 51
Signal Information 51
Start, Stop Time 50
Video Mute 50
Video Setting Descriptions 55
VCR Recording
with NetCommand 60
Restrictions 40

W

Warranties 89, 90

Notes

MITSUBISHI LCoS PROJECTION TELEVISION LIMITED WARRANTY

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC. ("MDEA") warrants to the original purchaser of this television that if purchased from an authorized MITSUBISHI Audio/Video Dealer, should it prove defective by reason of improper workmanship and/or material:

a. Parts. The diffusion (i.e. front picture) screen and/or the Diamond Shield™ is warranted against defects in materials and workmanship for a period of 30 days. The UHP lamp is warranted for a period of one year from the date of purchase at retail or 2000 hours of use, whichever condition occurs first. All other parts (except any software incorporated into this television) are warranted for a period of one year from the date of the original purchase at retail. We will repair or replace, at our option, any defective part without charge for the part. Parts used for replacement may be replaced with those of like kind and quality and may be new or remanufactured. Parts used for replacement are warranted for the remainder of the original warranty period.

b. Embedded Software. MDEA warrants that all software incorporated into this television set (the "Embedded Software") will perform in accordance with the functional description of Embedded Software in all material respects, but MDEA does not warrant that the Embedded Software is error-free. MDEA also does not warrant that the Embedded Software will be compatible under IEEE 1394 AV/C and HAVi software standards with products produced by any other manufacturer. The warranty contained in this section shall continue for a period of one year. If, after prompt notice within the warranty period, MDEA determines that the Embedded Software has failed to perform in accordance with such functional description in all material respects and if such failure is not due to accident, misuse, modification or misapplication of the Embedded Software, then MDEA shall modify or replace the nonconforming Embedded Software at no charge to you, which at MDEA's sole discretion may be fulfilled by means of modification or replacement software contained on a replacement memory card for Customer installation. The foregoing shall be MDEA's sole obligation to you under this limited warranty. All rights under this limited warranty on the Embedded Software also subject to your compliance with the terms of the Software License Agreement applicable to this television, and this limited warranty on the Embedded Software shall be null and void if the Embedded Software is modified or changed in any manner except as specifically authorized by MDEA.

c. Labor. For 30 days after the original purchase at retail, we will repair or replace, at our option, the diffusion screen if it proves defective. For certain items that are designed to be replaced by the consumer, including (but not limited to) the Diamond Shield™ and/or some Embedded Software, the consumer is solely responsible for any replacement labor. The UHP lamp is consumer replaceable and labor for replacement is not covered under warranty, please refer to the Owner's Guide for replacement procedures. Air filter cleaning is normal consumer required maintenance and labor for this procedure is not covered under warranty, please refer to the Owner's Guide for air filter cleaning procedures. For all other parts, we will provide the labor for a warranty repair by an authorized MITSUBISHI service center without charge for one year from the original date of purchase at retail.

d. Notice. To obtain warranty service, you must notify an authorized MITSUBISHI service center of any defect within the applicable warranty time period.

e. This LCoS Projection Television uses a revolutionary technology, Liquid Crystal on Silicon, to create the screen image. This technology creates the image using small dots, or picture elements (pixels). Your LCoS Projection TV is manufactured to a high level of perfection, in fact, 99.99% perfect in the number of properly functioning pixels. As in other display technology, sometimes a pixel is continuously active, inactive or the incorrect color. Our standard is clear; the percentage of properly functioning pixels will be 99.99%.

1. TO OBTAIN WARRANTY SERVICE:

a. Contact your nearest authorized MITSUBISHI service center whose name and address can be obtained from your MITSUBISHI dealer or by writing or calling MDEA at the address and telephone number provided below.

b. Warranty service will be provided in your home or, if required, at an authorized service shop, provided that your television is located within the geographic territory customarily covered by an authorized MITSUBISHI service center. If not, you must either deliver your television to an authorized service location at your own expense, or pay for any travel and/or transportation costs the service center may charge to and from your home. Actual service labor will be provided without charge.

c. Proof of purchase date from an authorized MITSUBISHI dealer is required when requesting warranty service. Present your sales receipt or other document which establishes proof and date of purchase. THE RETURN OF THE OWNER REGISTRATION CARD IS NOT A CONDITION OF WARRANTY COVERAGE. However, please return the Owner Registration Card so that we can contact you should a question of safety arise which could affect you.

d. To obtain a replacement UHP lamp during the warranty period, please contact the MDEA Consumer Relations Department at (949) 830-8364. After the warranty period you may order the lamp directly from the MDEA Parts Department at (800) 553-7278.

2. THIS WARRANTY DOES NOT COVER:

a. Up to .01% pixel outages (small dot picture elements that are dark or incorrectly illuminated).

b. Damage to Diamond Shield, diffusion screen or Fresnel lens, screen frame, cosmetic damage or to any other product where such damage is caused by unauthorized modification, alteration, repairs to or service of the product by anyone other than an authorized MITSUBISHI service center; physical abuse to or misuse of the product (including any failure to carry out any maintenance as described in the Owner's Guide including air filter cleaning or any product damaged by excessive physical or electrical stress); any products that have had a serial number or any part thereof altered, defaced or removed; product use in any manner contrary to the Owner's Guide; freight damage; or any damage caused by acts of God or other factors beyond the reasonable control of MDEA, such as power surge damage caused by electrical system or lightning. This warranty also excludes service calls where no defect in the product covered under this warranty is found, service calls related to unsatisfactory audio or visual reception or signal unless caused a defect in the product that is covered under this warranty, all costs, expenses or any other damages arising from product installation, or set-ups, any adjustments of user controls (including convergence, contrast, brightness, color, tint, fine tuning, sharpness), other adjustment necessary to prepare the unit for display or use, connection with any external audio receiver, antenna, cable or satellite systems, or service of products purchased or serviced outside the U.S.A. Please consult the operating instructions contained in the Owner's Guide furnished with the product for information regarding user controls.

3. ANY EXPRESS WARRANTY NOT PROVIDED HEREIN, AND ANY REMEDY WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION OR OPERATION OF LAW, IS HEREBY EXCLUDED AND DISCLAIMED. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY LIMITED TO A TERM OF ONE YEAR.

4. UNDER NO CIRCUMSTANCES SHALL MDEA BE LIABLE TO PURCHASER OR ANY OTHER PERSON FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER ARISING OUT OF BREACH OF WARRANTY, BREACH OF CONTRACT, OR OTHERWISE.

5. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental, special, or consequential damages, so the above limitations or exclusions may not apply to you.

6. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

7. BEFORE REQUESTING SERVICE, please review the instruction booklet to insure proper installation and correct customer control adjustment. If the problem persists, contact your nearest MITSUBISHI Dealer for name(s) of authorized MITSUBISHI Service Center(s). If you are unable to obtain this information, please call 800-332-2119, or write us at the address below.

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC.
9351 Jeronimo Road Irvine, CA 92618-1904

MITSUBISHI

MITSUBISHI TV SOFTWARE

END-USER LICENSE AGREEMENT FOR EMBEDDED SOFTWARE

IMPORTANT – READ CAREFULLY: This License Agreement is a legal agreement between you (either an individual or an entity) and Mitsubishi Digital Electronics America, Inc. (MDEA) for all software preinstalled and/or provided along with this television ("Software"). By utilizing this television and Software, you agree to be bound by the terms of this License Agreement.

The Software is protected by United States copyright laws and international treaty provisions, as well as other intellectual property laws and treaties. The Software is licensed, not sold.

1. **LICENSE GRANT.** MDEA grants you a non-exclusive, non-transferable, limited right and license to use one copy of the Software only with the Mitsubishi television model that included this owner's guide and owned by you.

2. **RIGHTS AND LIMITATIONS.**

Software Not for Resale. You may not resell or otherwise transfer for value the Software, except in conjunction with a sale of the TV that Software has been preinstalled.

Prohibition on Reverse Engineering, Decompilation and Disassembly. The Software contains trade secrets or other proprietary material in its human perceivable form and to protect them, you may not reverse engineer, decompile, or disassemble, or otherwise reduce the Software to any human perceivable form, except to the extent that the foregoing restriction is expressly prohibited by applicable law.

Separation of Components. The Software is licensed as a single product. Its component parts may not be separated for use on more than one TV.

No Rental. You may not rent, lease, lend, or sublicense the Software.

Trademarks. This License Agreement does not grant you any rights to any trademarks of MDEA.

3. **VIOLATIONS.** You understand that any use, copying or transfer of the Software, except as permitted pursuant to this License, may subject you to serious criminal and civil penalties including damages and an award to MDEA of attorneys' fees in connection with any violation of this License. You further understand that you may be held legally responsible for any copyright infringement or other violation of intellectual property rights that is caused, encouraged, or induced by your failure to abide by the terms of the License. This license is effective until terminated, and will terminate immediately without notice from MDEA or judicial resolution if you fail to comply with any provision of this License.

4. **COPYRIGHT.** All title and intellectual property rights in and to the Software (including but not limited to any images, photographs, animations, video, audio, music, text, and "applets" incorporated into the Software), and any accompanying printed materials are owned by or licensed to MDEA. All title and intellectual property rights in and to the content which may be accessed through use of the Software is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This License Agreement grants you no rights to use such content, except that you own the media on which the Software is recorded, but MDEA and its licensors retain ownership of the Software itself. All rights not expressly granted are reserved by MDEA.

5. **EXPORT RESTRICTIONS.** MDEA is licensing the Software for use within the United States. You agree that you will not export or re-export the Software. You specifically agree not to export or re-export the Software: (i) to any country to which the U.S. has embargoed or restricted the export of goods or services, which currently include, but are not necessarily limited to Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria, or to any national of any such country, wherever located, who intends to transmit or transport the Software back to such country; (ii) to any person or entity who you know or have reason to know will utilize the Software in the design, development, or production of nuclear, chemical, or biological weapons; or (iii) to any person or entity who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government. You warrant and represent that neither the BXA nor any other U.S. federal agency has suspended, revoked, or denied your export privileges.

6. **DISCLAIMER OF WARRANTY. EXCEPT AS OTHERWISE PROVIDED IN THIS LICENSE OR IN THE LIMITED WARRANTY APPLICABLE TO THE TV, MDEA MAKES NO OTHER WARRANTIES OF ANY KIND WHATSOEVER REGARDING THE SOFTWARE AND HEREBY EXPRESSLY DISCLAIMS ALL WARRANTIES OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO THE SOFTWARE. ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXPRESSLY DISCLAIMED BY MDEA. IN NO EVENT SHALL MDEA BE LIABLE TO YOU OR ANY THIRD PARTIES, IN CONTRACT, IN TORT OR OTHERWISE, FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR NATURE. BECAUSE SOME JURISDITIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF IMPLIED WARRANTIES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.**

7. **LIMITATION OF LIABILITY. MDEA SHALL NOT, UNDER ANY CIRCUMSTANCES BE LIABLE TO YOU OR ANY THIRD PARTIES FOR ANY DAMAGES OF ANY NATURE, WHETHER INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY CLAIMS FOR LOST PROFITS, LOSS OF GOOD WILL OR EXPENDITURES MADE OR COMMITTED FOR IN RELIANCE ON THE CONTINUATION OF THIS LICENSE. YOU AGREE THAT NEITHER MDEA'S BREACH OF THIS LICENSE NOR ITS FAILURE TO REPAIR A DEFECT, ERROR OR BUG SHALL CONSTITUTE A FAILURE OF THE ESSENTIAL PURPOSE OF THIS LICENSE. BECAUSE SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTIAL DAMAGES, THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. MDEA's liability to you for direct damages for any cause whatsoever and regardless of the form of the action, will be limited to the money paid by you for the TV (based on fair market value of the TV) that caused the damages.**

8. GENERAL. This License Agreement will be governed by the laws of the State of California.

Demo Mode

This TV has a demo mode for use in a retail store.

To turn On/Off, press the following buttons on the remote control in sequence:

TV Menu *(to display the TV's menu),Then press:* 0, QV, 0

LICENSOR'S SUPPLIERS DO NOT MAKE OR PASS ON TO END USER OR ANY OTHER THIRD PARTY, ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY OR REPRESENTATION ON BEHALF OF SUCH SUPPLIERS, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, TITLE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited pay-per-view uses only unless otherwise authorized by Macrovision. Reverse engineering or dissasembly is prohibited.

MultiMediaCard™ is trademark of Infineon Technologies and licensed to the MultiMediaCard Association.

SmartMedia™ is a trademark of Toshiba Corp.

CompactFlash® and CF are trademarks of the CompactFlash Association.

Memory Stick™ is a trademark of Sony Corp.

Lifestyle® 28 is a trademark of the Bose Corporation.

XBox™ is a trademark of the Microsoft Corporation.

Playstation® 2 is a trademark of the Sony Corporation.

This product includes technology owned by Microsoft Corporation and cannot be used or distributed without a license from Microsoft Licensing, Inc.

MITSUBISHI
THE BIG SCREEN COMPANY™
Digital

If you have questions regarding your television, call Consumer Relations at (800) 332-2119, or email us at MDEAservice@bigscreen.mea.com

To order replacement or additional remote controls or owner's guides call (800) 553-7278

or

visit our website at www.mitsubishi-tv.com

© 2003 Mitsubishi Digital Electronics America, Inc.
871D398A10

Designed and Printed in the U.S.A

Other ManualsLib Projects

www.manualslib.com

www.manualslib.de

www.manualslib.es

www.manualslib.fr

www.manualslib.nl

www.manualslib.mx

www.manualslib.tech 30+ Languages